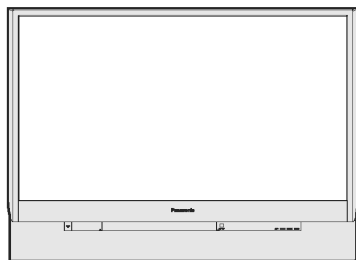


# Service Manual

## Multi Media Display



**PbF**  
**Solder Lead free**

**PT-44LCX65-K**  
**PT-52LCX65-K**  
**PT-61LCX65-K**

ITEM	SPECIFICATION	1	2	3	ITEM	SPECIFICATION	1	2	3
LCD panels	0.7" Poly silicon TFT LCD panel x 3	○	○	○	Channel Capability (ATSC/NTSC)	VHF/UHF 2-69 Cable 1-135	○	○	○
Drive method	Active Matrix 16:9 Aspect Ratio panels, TFT (Thin Film Transistor)	○	○	○	Input Terminals	S-Video Input: Mini DIN 4-pin			
No. of pixels	921 600 (1 280 x 720) stripe pixels x 3 panels (16:9)	○	○	○		Video Input: RCA Pin Jack			
HID Lamp	100 W HID (High Intensity Discharged) Lamp	○	○	○		RGB Input: D-Sub mini 15-pin			
Display	44 inch, 16 : 9 aspect ratio	○	—	—	Output Terminals	Component Video Input: 3 RCA Pin Jacks	○	○	○
	52 inch, 16 : 9 aspect ratio	—	○	—		HDMI Input: HDMI type A Connector			
	61 inch, 16 : 9 aspect ratio	—	—	○		Audio Input: 2 RCA Pin Jacks (L-R)			
Video input signal	1.0 Vp-p, sync negative, 75 Ω terminated	○	○	○	SD Card Slot	Video Output: RCA Pin Jack	○	○	○
S-Video input signal	Y (luminance signal): 1.0 Vp-p, sync negative, 75 Ω terminated C (chrominance signal): burst 0.286 Vp-p, 75 Ω terminated	○	○	○		Audio Output: 2 RCA Pin Jack (L-R)			
RGB input signal	Video signal: RGB Analog (0.7 Vp-p, 1.0 Vp-p with sync on green, 75 Ω)					Digital Audio Output: Optical Connector			
	Sync signal: H/V separate, H/V composite	○	○	○	Power Source	SD Card (8 MB/ 16MB/ 32MB/ 64MB/ 128MB/ 256MB/ 512MB/ 1GB (Maximum))	○	○	○
	H-Frequency: 31.47 kHz-68.68 kHz (TTL Level) V-Frequency: 56.25 Hz-85.08 Hz (TTL Level)				Power Consumption	AC 120 V, 60 Hz	○	○	○
Component Video input signal	Y: 1.0 Vp-p, with sync, 75 Ω. Pb, Pr: ±0.35 Vp-p, 75 Ω. YPbPr Signal:				Operating Conditions	Power ON: Approx. 180 W (When audio is at maximum) Power OFF: Approx. 0.3 W (When cooling fan is stopped)	○	○	○
	480 i H-Frequency 15.73 kHz V-Frequency 29.97 Hz	○	○	○	Weight (Mass)	Temperature: 0 °C~35 °C (32 °F~95 °F) Humidity: 20 %~80 % (non-condensing)			
	480 p H-Frequency 31.47 kHz V-Frequency 59.94 Hz					31 kg (68 lbs.)	○	—	—
Audio input signal	720 p H-Frequency 45.00 kHz V-Frequency 60.00 Hz					35 kg (77 lbs.)	—	○	—
	1080 i H-Frequency 33.75 kHz V-Frequency 30.00 Hz				Dimensions (W x H x D)	42 kg (93 lbs.)	—	—	○
						1 048 mm x 769 mm x 374 mm (41-1/4 inch x 30-1/4 inch x 14-3/4 inch)	○	—	—
Audio output signal	0.5 Vrms	○	○	○		1 225 mm x 893 mm x 431 mm (48-1/4 inch x 35-3/16 inch x 17 inch)	—	○	—
Speaker	2 Speakers 30 W [15 W + 15 W] (10 % THD)	○	○	○		1 424 mm x 1 029 mm x 468 mm (56-1/16 inch x 40-1/2 inch x 18-7/16)	—	—	○
Tuner	ATSC digital tuner with digital cable module	○	○	○	<b>Solder</b>	<b>This model uses lead free solder (PbF).</b>	○	○	○

1. PT-44LCX65-K
2. PT-52LCX65-K
3. PT-61LCX65-K

Weight and dimensions shown are approximate.  
Designs and specifications are subject to change without notice.

## ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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# 1 SAFETY PRECAUTIONS

## 1.1. GENERAL GUIDELINES

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

### Caution:

**Use a separate Isolation Transformer for this unit when servicing.**

## 1.2. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M $\Omega$  and 12 M $\Omega$ . When the exposed metal does not have a return path to the chassis, the reading must be infinity.

## 1.3. LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet.  
Do not use an isolation transformer for this check.
2. Connect "A" to exposed metallic part on the set. And connect "B" to a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 k $\Omega$ /V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS.  
A leakage current tester (Simpson Model 228 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of

the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

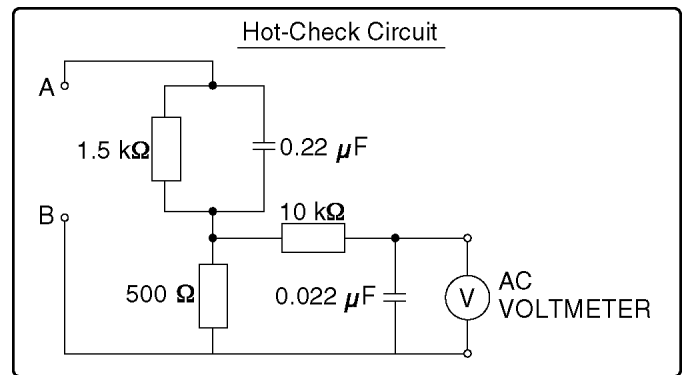


Figure 1

## 1.4. UV-PRECAUTION

1. Be sure to disconnect the AC Plug when replacing the lamp.
2. Since the lamp reaches a very high temperature during its operation, wait until it has completely cooled off when replacing the Lamp Unit.
3. The lamp emits small amounts of UV-Radiation.  
Avoid direct-eye contact by covering the Lamp and wearing the UV protective glasses.
4. The high pressure lamp involves a risk of explosion.

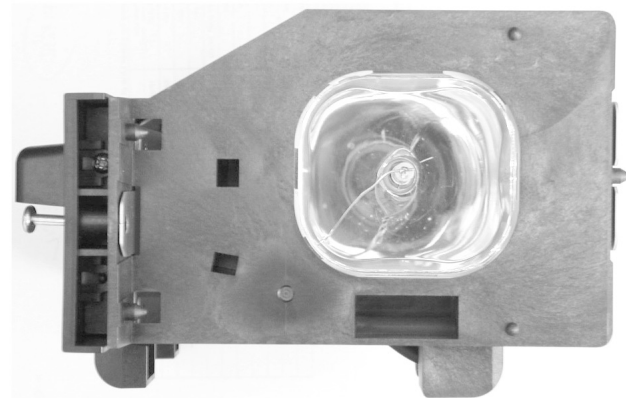


Figure 2

This product has a High Intensity Discharge (HID) lamp that contains a small amount of mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org>>

## 2 PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

### CAUTION :

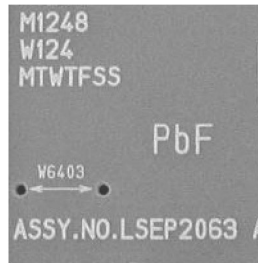
Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

### 3 ABOUT LEAD FREE SOLDER (PbF)

#### Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.  
(Please refer to figures.)



Printed case

#### CAUTION:

- Pb free solder has a higher melting point than standard solder;  
Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.  
Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).  
In case of using high temperature soldering iron, please be carefull not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.  
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,  
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

#### Recommendations

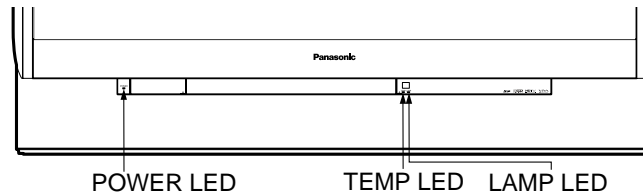
Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

## 4 SERVICE NOTES

### LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.

When an error is detected, the Lamp comes off and the LED on the front will flash.



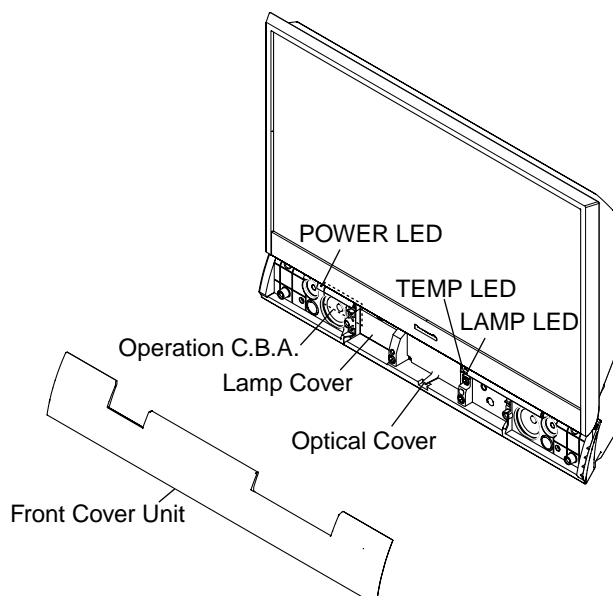
Error No.	Error Information	POWER LED	TEMP LED	LAMP LED	(Note 2)	(Note 3)
					OSD	LAMP OFF
1)	Fan1, Fan2 or Fan3 stopped	flashes orange once every 5 seconds	-	-		○
2)	Lamp Cover open	flashes orange twice every 5 seconds	-	-		○
3)	Temperature Sensor shorted or open (Thermistor 1 C.B.A.)	-	flashes once every 5 seconds	-		○
4)	Abnormal Temperature (Thermistor 1 C.B.A.)	-	flashes twice every 5 seconds	-		○
5)	Ballast Error (abnormal Lamp or Ballast)	-	-	flashes once every 5 seconds		○
6)	Ballast Error (abnormal Lamp voltage)	-	-	flashes twice every 5 seconds		○
7)	Ballast Error (abnormal temperature)	-	-	flashes 3 times every 5 seconds		○
8)	Ballast Error (other causes)	-	-	flashes 4 times every 5 seconds		○
9)	Abnormal Voltage (+17V, +9V, +5V line) for LCD Drive C.B.A.	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
10)	Temperature Sensor shorted or open (Thermistor 2 C.B.A.)	-	flashes 3 times every 5 seconds	-		○
11)	Abnormal Temperature (Thermistor 2 C.B.A.)	-	flashes 4 times every 5 seconds	-		○
12)	Clogged air filter	-	flashes 5 times every 5 seconds	-	○	○

**Note:**

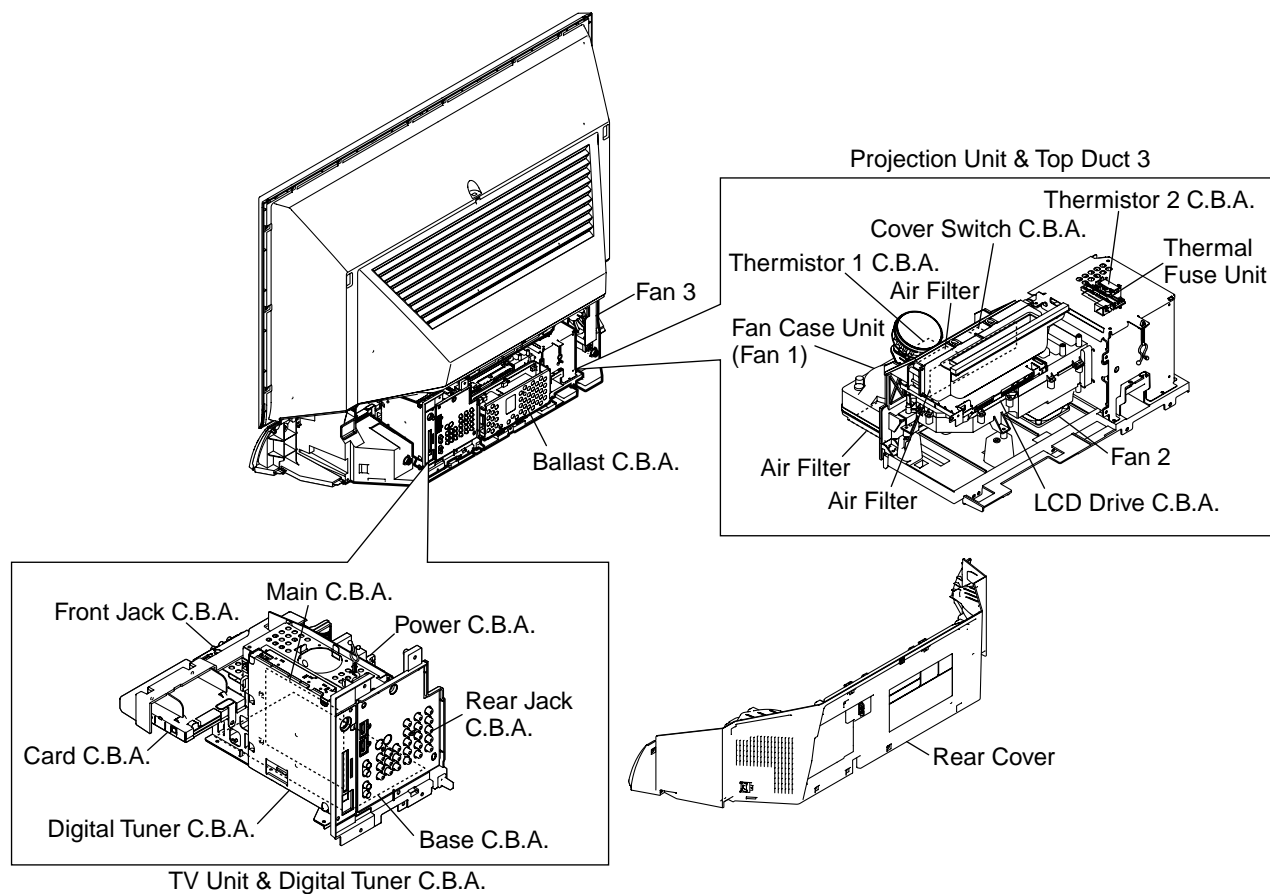
- When two or more errors have occurred at the same time, the LED will alternate flash patterns as shown above every 5 seconds.
- Warning OSD appears when the air filter is clogged.
- LAMP OFF: The LED will flash immediately after the Lamp comes off.

## MAIN PARTS LOCATION

### <Front View>



### <Rear View>



## SERVICE MODE

In this mode, the following information can be confirmed on the screen:

### Service Mode (1/3)

- Current Lamp elapsed time
- The number of Lamp ON (**For reference only**)
- BKSX number read-out

### Service Mode (2/3)

- Key detection check
- Communication check for IIC bus on the Main C.B.A.
- Total Lamp elapsed time
- Communication check for IIC bus on the Main C.B.A.
- EEPROM IC6007 version and build version (**For reference only**)
- IC6003 software version and build version (**For reference only**)

### Service Mode (3/3)

- IC6003 Port information

#### Note:

IC6003: Main Microcontroller on the Main C.B.A.

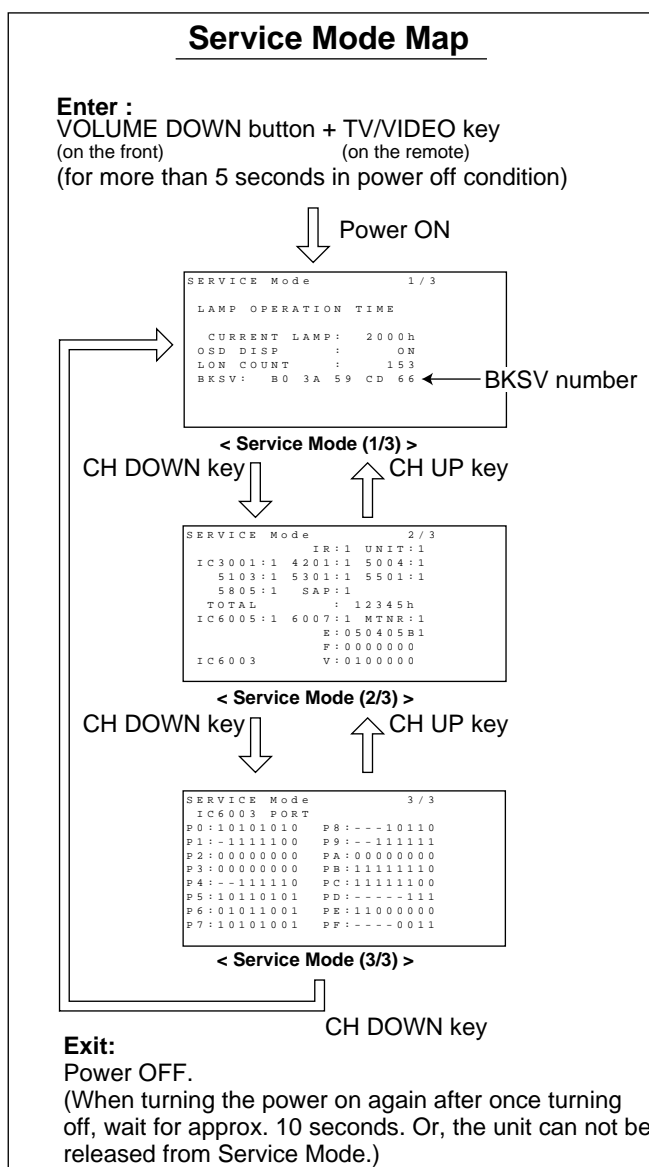


Fig. 1-1

- Press and hold the VOLUME DOWN button on the unit and the TV/VIDEO key on the remote for more than 5 seconds in power off condition. The unit will go into Service Mode. Service Mode (1/3) will appear.

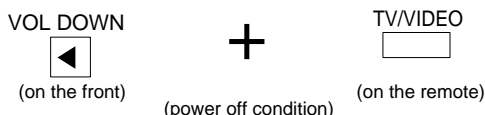


Fig. 1-2

SERVICE Mode										1 / 3
LAMP OPERATION TIME										
CURRENT LAMP:		2000h		←*1 (Changeable)						
OSD DISP		:	ON		←*2					
LON COUNT		:	153		←*3					
BKSV:		B0	3A	59	CD	66	←*4			

&lt;Service Mode (1/3)&gt;

Fig. 1-3

- \*1: The current elapsed "Lamp operation" time (in hours) (changeable)

**Note:**

"CURRENT LAMP" can be changed as follows:  
Select "CURRENT LAMP" by pressing CH UP/DOWN key and press the OK key.  
Then, press the VOLUME UP/DOWN key to change the value of \*1.

To release, press the RECALL key.

- \*2: OSD Display ON/OFF mode (Not used for service)

**Note:**

Press the OK key to display OFF.  
To release, press any key.

- \*3: The number of Lamp ON (limit 65535) (For reference only)  
(When the Lamp time is reset, value of \*3 will be "0")

- \*4: BKSV number read-out  
IC5805 (HDMI IC) on the Main C.B.A. has its own number called BKSV and it is displayed.

**Note:**

To display BKSV number, refer to "HOW TO DISPLAY BKSV NUMBER."

- Press the CH DOWN key. Service Mode (2/3) will appear.

SERVICE Mode										2 / 3	
IR: 1 UNIT: 1										←*5	
IC3001: 1 4201: 1 5004: 1											
5103: 1 5301: 1 5501: 1										←*6	
5805: 1 SAP: 1											
TOTAL										: 12345h ←*7(Changeable)	
IC6005: 1 6007: 1 MTNR: 1										←*8	
E: 050405B1										←*9	
F: 0000000											
IC6003										V: 0100000 ←*10	

&lt;Service Mode (2/3)&gt;

Fig. 1-4-1

- \*5: Key detection (IR and Unit operation button) check

**Note:**

**On the remote**, first, press the TV key on the remote to go to TV mode. Then, press any operation key except POWER, LIGHT, CH UP/DOWN, REW, PLAY, FF, PAUSE, STOP, REC, TV/VCR or OPEN/CLOSE to detect if a key has been pressed. If a key has been detected by IC6003, "1" will change to "0."

**On the unit**, press any operation button except POWER to detect if a button has been pressed.

If a button has been detected by IC6003, "1" will change to "0."

- \*6: Communication check for IIC bus on the Main C.B.A.

(Communication check for I <sup>2</sup> C bus)		
Explanation	NG OK	Code No.
Communication check for I <sup>2</sup> C bus (IC6003↔IC3001(VIDEO SW))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔IC4201(SOUND PROCESSOR))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔IC5004(MAIN VIDEO SIGNAL PROCESS))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔IC5103(SUB VIDEO SIGNAL PROCESS))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔IC5301(VIDEO SIGNAL PROCESS))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔IC5805(HDMI INTERFACE))	NG OK	0 1
Communication check for I <sup>2</sup> C bus (IC6003↔SAP (MTS/SAP SIGNAL PROCESS))	NG OK	0 1
<b>Note:</b> SAP is included in TUNER which supplied as a unit.		

Fig. 1-4-2

- \*7: The total elapsed "Lamp operation" time (in hours) (changeable) (For reference only)

**Note:**

Even when changing the value of \*1, it is not effective for the value of \*7.



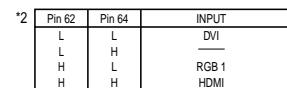
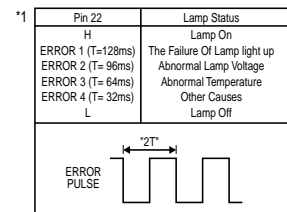


## I/O CHART OF IC6003

Pin No.	I/O	Port No.	Signal Name	Description
1	-	-	TSTMD1	(Not used)
2	-	P83	A20	(Not used)
3	O	P66	A07	ADDRESS 7
4	O	P65	A06	ADDRESS 6
5	O	P64	A05	ADDRESS 5
6	O	P63	A04	ADDRESS 4
7	O	P62	A03	ADDRESS 3
8	O	P61	A02	ADDRESS 2
9	O	P60	A01	ADDRESS 1
10	-	-	TEST	(Not used)
11	I	-	VDD	VDD (+3.3V)
12	I	-	RTCXI	32.768kHz OSCILLATION
13	O	-	RTCXO	32.768kHz OSCILLATION
14	-	-	VSS	GND
15	O	P45	H10	STANDBY (L) / POWER ON (H)
16	O	P44	H11	SCALER CS (L)
17	O	P43	V10	DIGITAL TUNER OUTPUT (H) / NO OUTPUT (L)
18	O	P42	V11	LAMP ON (H) / OFF (L)
19	I	P16	COVER_OPEN_H	LAMP COVER OPEN (H) / CLOSE (L)
20	O	P15	L_ON_H	LAMP ON / OFF CONTROL (ON (H) / OFF (L))
21	O	P14	STBY	STANDBY (L) / POWER ON (H)
22	I	P13	TM0IO	LAMP ERROR PULSE (ON (H) / OFF (L) / ERROR (PULSE)) *1
23	I/O	PC3	SDA0B	SERIAL DATA
24	O	PC2	SCL0B	SERIAL CLOCK
25	-	-	VSS	GND
26	-	P41	HCCLK0	(Not used)
27	O	P40	HCCLK1	HDMI HOT PLUG DETECT
28	I	-	VDD	VDD (+3.3V)
29	O	P37	B04	OSD-B DATA 4
30	O	P36	B03	OSD-B DATA 3
31	O	P35	B02	OSD-B DATA 2
32	O	P34	B01	OSD-B DATA 1
33	O	P33	B00	OSD-B DATA 0
34	O	P32	G05	OSD-G DATA 5
35	O	P31	G04	OSD-G DATA 4
36	O	P30	G03	OSD-G DATA 3
37	O	P27	G02	OSD-G DATA 2
38	O	P26	G01	OSD-G DATA 1
39	O	P25	G00	OSD-G DATA 0
40	I	-	VDD	VDD (+3.3V)
41	-	-	VSS	GND
42	O	P24	R04	OSD-R DATA 4
43	O	P23	R03	OSD-R DATA 3
44	O	P22	R02	OSD-R DATA 2
45	O	P21	R01	OSD-R DATA 1
46	O	P20	R00	OSD-R DATA 0
47	I	-	VDD	VDD (+3.3V)
48	I	-	OSDXI	OSD CLOCK
49	-	-	OSDXO	(Not used)
50	-	-	VSS	GND
51	O	P12	VSYN	OSD V-SYNC
52	O	P11	YS	OSD-Y
53	O	P10	YM	OSD-YM
54	O	P07	HSYN	OSD H-SYNC
55	O	PC1	SDA0A	HDMI AUDIO MUTE (H)
56	-	PC0	FA_3	(Not used)
57	-	P06	FA_2	(Not used)
58	I	P05	AL3	I <sup>2</sup> C SERVICE (L)
59	O	P04	AL2	RESET (L)
60	O	P03	TEMP_LED_H	TEMP LED ON (H)

Pin No.	I/O	Port No.	Signal Name	Description
61	O	P02	LAMP_LED_H	LAMP LED ON (H)
62	O	P01	P_LED_R	POWER LED (RED) ON (L)
63	O	P00	P_LED_G	POWER LED (GREEN) ON (L)
64	-	-	AVSS	GND
65	I	-	AVDD2	VDD (+3.3V)
66	-	-	DT_ICON_H	(Not used)
67	O	-	HDMI1_L/S_H	HDMI 1 (L) / HDMI 2 (H)
68	O	-	RGB_L	RGB (L) / VIDEO (H)
69	O	-	HDMI_A_PD_L	HDMI AUDIO (IC5807) POWER DOWN (L)
70	-	-	COMP	(Not used)
71	I	-	VREF	VREF FOR IC6003
72	-	-	IREF	(Not used)
73	-	-	AVSS	GND
74	I	-	CVBS1	MAIN COMPOSITE VIDEO
75	-	-	VREFHS1	(Not used)
76	-	-	CLL	(Not used)
77	I	-	AVDD1	VDD (+3.3V)
78	I	-	CVBS0	SAB COMPOSITE VIDEO
79	-	-	VREFHS0	(Not used)
80	-	-	CLH	(Not used)
81	-	-	PLTST	(Not used)
82	I	-	AVDD1	VDD (+3.3V)
83	-	-	AVSS	GND
84	O	PC7	I2C_SCK_3.3V	I <sup>2</sup> C SERIAL CLOCK 0
85	I/O	PC6	I2C_DATA_3.3V	I <sup>2</sup> C SERIAL DATA 0
86	I	PF3	ERROR	KEY DATA 2
87	I	PF2	ZERO_X_DET	ZERO CROSS DETECT
88	I	PF1	HDMI_INT	HDMI INTERRUPT REQUEST
89	I	PF0	ATSC_INT	ATSC TUNER INTERRUPT REQUEST
90	O	PE7	AMP_MUTE_L	AUDIO AMP MUTE (L)
91	O	PE6	LINE_MUTE_H	LINE AUDIO OUT MUTE (H)
92	-	PE5	FA_1	(Not used)
93	I	PE4	FILTER_DET	CLOGGED FILTER DETECT (A/D INPUT)
94	I	PE3	M_AFT	MAIN TUNER AFC
95	I	PE2	KEY_IN2	LCD DRIVE ERROR INFORMATION *2
96	I	PE1	KEY_IN1	KEY DATA 1
97	I	PE0	KEY_IN0	KEY DATA 0
98	-	-	VSS	GND
99	O	-	OSC2	4MHz OSCILLATION
100	I	-	OSC1	4MHz OSCILLATION
101	I	-	VDD	VDD (+3.3V)
102	I	P57	IR_IN	IR DATA
103	O	P95	ATSC_SO	ATSC SERIAL DATA 0
104	I	P94	ATSC_SI	ATSC SERIAL DATA 1
105	I	P93	DTV_P_ON_H	DIGITAL TUNER POWER ON (H)
106	O	P92	SB00	SERIAL DATA 0
107	I	P91	SB10	SERIAL DATA 1
108	O	P90	SBT0	SERIAL CLOCK
109	-	P56	PWM3	(Not used)
110	O	P55	PWM2	H PHASE CONTROL
111	O	P54	PWM1	SD BOOT (H)
112	O	P53	PWM0	IC6009 CS (L)
113	O	-	PDS	POWER DOWM (L)
114	O	-	D_A_SW	DIGITAL TUNER (L) / ANALOG TUNER (H)
115	O	PD1	WDOUT	DIGITAL TUNER RESET (L)
116	O	PD0	SCL1	I <sup>2</sup> C SERIAL CLOCK 1
117	I/O	PC5	SDA1	I <sup>2</sup> C SERIAL DATA 1
118	-	PC4	CPUMD1	(Not used)
119	-	-	CPUMD1	(Not used)
120	-	-	CPUMD0	(Not used)

Pin No.	I/O	Port No.	Signal Name	Description
121	-	-	TSTMD0	(Not used)
122	O	P52	WE	IC6009 WRITE ENABLE (L)
123	O	P51	OE	IC6009 OUTPUT ENABLE (L)
124	I	-	VDD	VDD (+3.3V)
125	I	P50	/RST	RESET (L)
126	-	-	VSS	GND
127	I/O	PB7	D15	DATA 15
128	I/O	PB6	D14	DATA 14
129	I/O	PB5	D13	DATA 13
130	I/O	PB4	D12	DATA 12
131	I/O	PB3	D11	DATA 11
132	I/O	PB2	D10	DATA 10
133	I/O	PB1	D09	DATA 9
134	I/O	PB0	D08	DATA 8
135	I/O	PA7	D07	DATA 7
136	I/O	PA6	D06	DATA 6
137	I/O	PA5	D05	DATA 5
138	I/O	PA4	D04	DATA 4
139	-	-	VSS	GND
140	I	-	VDD	VDD (+3.3V)
141	I/O	PA3	D03	DATA 3
142	I/O	PA2	D02	DATA 2
143	I/O	PA1	D01	DATA 1
144	I/O	PA0	D00	DATA 0
145	-	P82	A19	(Not used)
146	O	P81	A18	ADDRESS 18
147	O	P80	A17	ADDRESS 17
148	O	P77	A16	ADDRESS 16
149	O	P76	A15	ADDRESS 15
150	O	P75	A14	ADDRESS 14
151	O	P74	A13	ADDRESS 13
152	O	P73	A12	ADDRESS 12
153	I	-	VDD	VDD (+3.3V)
154	-	-	VSS	GND
155	O	P72	A11	ADDRESS 11
156	O	P71	A10	ADDRESS 10
157	O	P70	A09	ADDRESS 9
158	O	P67	A08	ADDRESS 8
159	-	P84	A21	(Not used)
160	-	-	OSCMD0	(Not used)



## BEFORE REMOVING THE MAIN C.B.A. OR THE TV UNIT FROM THE UNIT AT THE USER'S LOCATION

### Note:

The TV Unit includes the Main C.B.A.

### CAUTION:

1. **Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):**

SERVICE Mode		1 / 3
LAMP OPERATION TIME		
CURRENT LAMP:	2000h	← Value A (Changeable)
OSD DISP :	ON	
LON COUNT :	153	
BKSV:	4B 7E 3D CA FB	

<Service Mode (1/3)>

Fig. 2

LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3). Then, after installing the new Main C.B.A. or the TV Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode. Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

### Note:

In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	×	Approx. age (days)	=	CURRENT LAMP (hours)
------------------------------	---	-----------------------	---	-------------------------

### Note:

The TOTAL value can be set to the original value in Service Mode (2/3) by similar method: Before removing the Main C.B.A. at the user's location, make a note of the TOTAL value in Service Mode (2/3). Then, after installing the new Main C.B.A. at the user's location, set the TOTAL value to the original value in Service Mode.

## WHEN REINSTALLING THE MAIN C.B.A. OR THE TV UNIT INTO THE UNIT AT THE USER'S LOCATION

### CAUTION:

1. Set CURRENT LAMP value to original value as follows.
  - 1) Select CURRENT LAMP in Service Mode (1/3).
  - 2) Press the VOLUME UP/DOWN key on the remote to change to the original value (value A) that was noted before removing the Main C.B.A. or the TV Unit at the user's location.

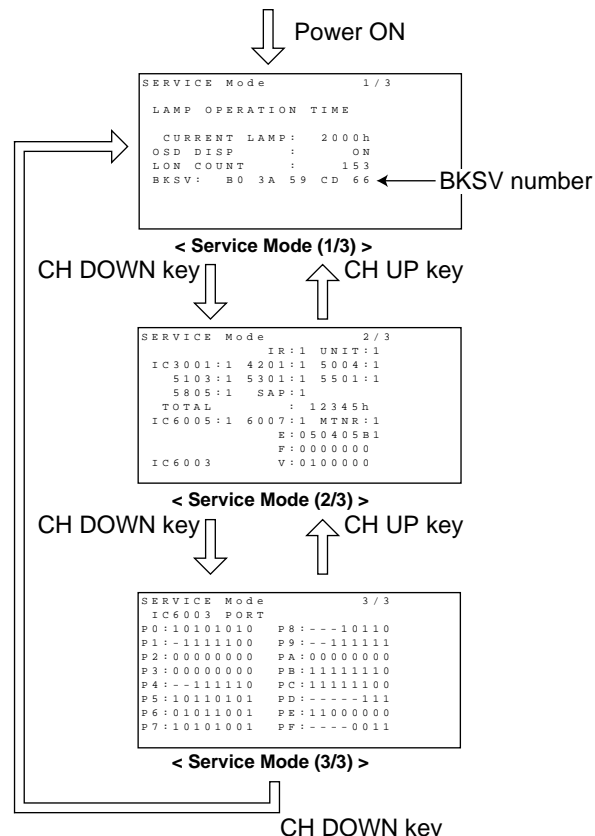
SERVICE Mode		1 / 3
LAMP OPERATION TIME		
CURRENT LAMP:	2000h	← Value A (Changeable)
OSD DISP :	ON	
LON COUNT :	153	
BKSV:	48 BF 9D 72 B5	

<Service Mode (1/3)>

Fig. 3

## Service Mode Map

**Enter :**  
VOLUME DOWN button + TV/VIDEO key  
(on the front) (on the remote)  
(for more than 5 seconds in power off condition)



### Exit:

Power OFF.

(When turning the power on again after once turning off, wait for approx. 10 seconds. Or, the unit can not be released from Service Mode.)

## REPLACEMENT OF LAMP

### Lamp Time Reset Procedure:

Be sure to reset the Lamp time to "0" after replacing the new Lamp.

1. Plug in the AC Cord, and turn on the power by pressing the POWER button.
2. Press and hold the VOLUME DOWN button on the unit and the SPLIT key on the remote together for over 5 seconds in power on condition.

When the reset is finished, the display as shown in Fig. 5-1 appears and the LAMP LED goes out.

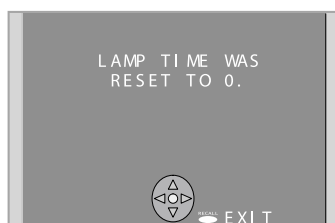


Fig. 5-1

#### Note:

1. The unit will detect when the Lamp's end of life is approaching and the following message will be displayed. And the LAMP indicator light will be lit when the Lamp's end of life is approaching.



Fig. 5-2

2. Influences of frequent lighting, continuous light use for over 24 hours, the number of times lit, the length of time between lightings, etc. may shorten lamp life. (Because of this, we recommend having a replacement lamp on hand.)

#### WARNING:

- The lamp could rupture if dropped and lamp fragments could cause injury.
- Because the lamp unit is hot immediately after its use, touching it may cause burns. Please allow the lamp to cool before handling or replacing the lamp unit.
- If replacement of the lamp unit becomes necessary during the operation of the Projection Display, follow the procedure to turn off the power and wait until the lamp unit cools completely.

#### Cautions for Lamp Unit Replacement:

- Do not disassemble the Lamp.
- The lamp may be hot. Be careful when handling. Wear gloves.
- Under no circumstance should you touch the actual bulb. At this high operating temperature the natural oil on your finger can cause the glass to weaken where touched and the bulb can crack or explode.

### Lamp Replacement Procedure:

1. Press the POWER button to turn off the power.
2. Wait for about 1 minute until the cooling fan stops.

#### Note:

The lamp cooling fan will continue to operate for about 1 minute after the power is turned off. Do not unplug the AC Cord from the outlet until the fan has stopped. Avoid interrupting the power by using circuit breakers or switchable power strips.

3. After the cooling fan has stopped, unplug the AC Cord from the outlet.

#### Note:

Please wait more than one hour before replacing the lamp.

#### [ Forced cooling function ]

##### If you need to replace the lamp more urgently:

- The Projection display has a forced cooling feature. After the POWER button is turned OFF, and during the first minute of the normal cooling fan operation, press the VOLUME UP button on the unit and CH UP key on the remote at the same time for more than 5 seconds. The cooling fan operates for about 10 minutes. (LAMP LED will flash 5 times every 5 second and POWER LED will flash red for 10 minutes.)

4. Remove the Front Cover Unit from the latches.
5. Turn the Knob to the left.

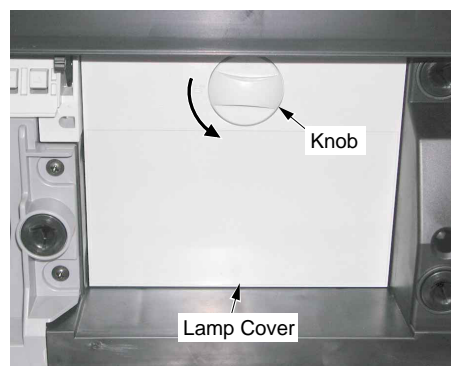


Fig. 5-3

6. Pull the Lamp Cover out.
7. Loosen the Screw on the Lamp. Then, pull the Lamp.

#### Note:

Because the Lamp may still be hot, use caution when handling.

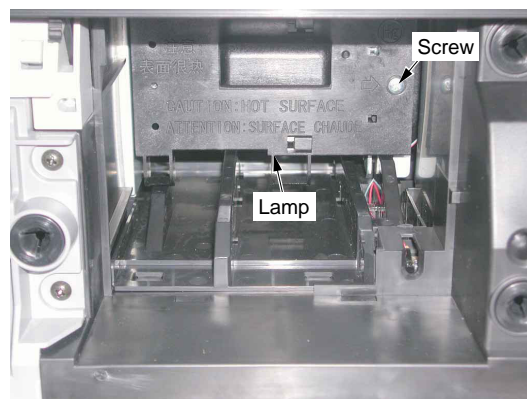


Fig. 5-4

8. Install the new Lamp, and tighten the Screw.
9. Install the Lamp Cover, and turn the Knob to the right.
10. Install the Front Cover Unit.

#### Note:

After replacing the Lamp, use caution to reset the Lamp time.

## CLEANING METHOD

### THE SCREEN UNIT AND THE MIRROR

#### - THE SCREEN UNIT (Lenticular Screen, Fresnel Lens)

It is strongly recommended that the Lenticular Screen surface (outside) and the Fresnel Lens surface (inside) should be wiped gently with a clean, soft, dry cloth to remove the dirt.

#### Note:

1. If the dirt cannot be removed by wiping with a clean, soft, dry cloth, use a clean, soft, dry cloth moistened with diluted neutral pH liquid cleanser or a lens cleaner (usually containing a small amount of ethyl alcohol) and wipe lightly. Take care not to leave any streaks. Do not use cleaning materials containing methyl alcohol, acetone, or dichloromethane.
2. Use an air blower to clean the inner surface of the Lenticular Screen and the outer surface of the Fresnel Lens (the surfaces that one another). These surfaces must not be wiped with a cloth.

#### - THE MIRROR

Remove any dirt with an air blower or wipe with a clean, soft, dry cloth. If wiped too forcefully, the surface of the Mirror can be damaged. If wiping with a clean, dry cloth does not remove the dirt, the Mirror must be replaced.

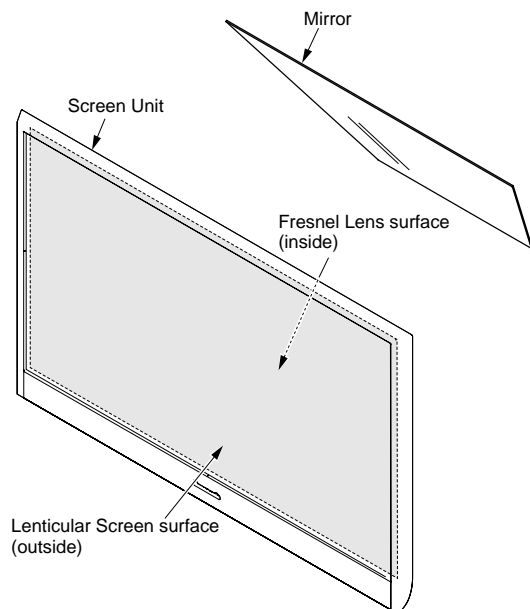


Fig. 6-1

### THE LAMP

Gently wipe the surface of the glass of the Lamp with cleaning paper or soft cloth.

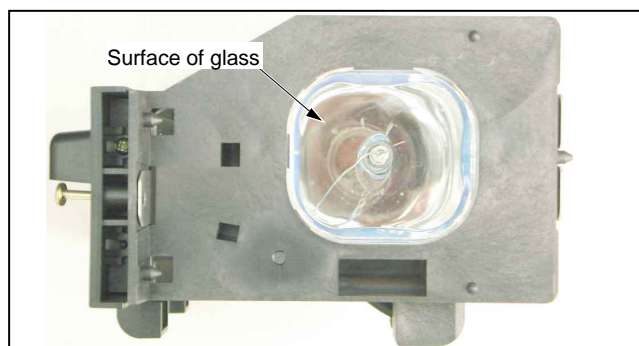


Fig. 6-2

## THE FILTER ON THE PROJECTION UNIT

### CAUTION:

Operating with torn or damaged Air Filter may cause damage to the Projection unit.

Remove the Projection Unit from rear. Then, clean the filters on the Projection Unit. Gently remove any accumulated dust from filter with a vacuum cleaner.

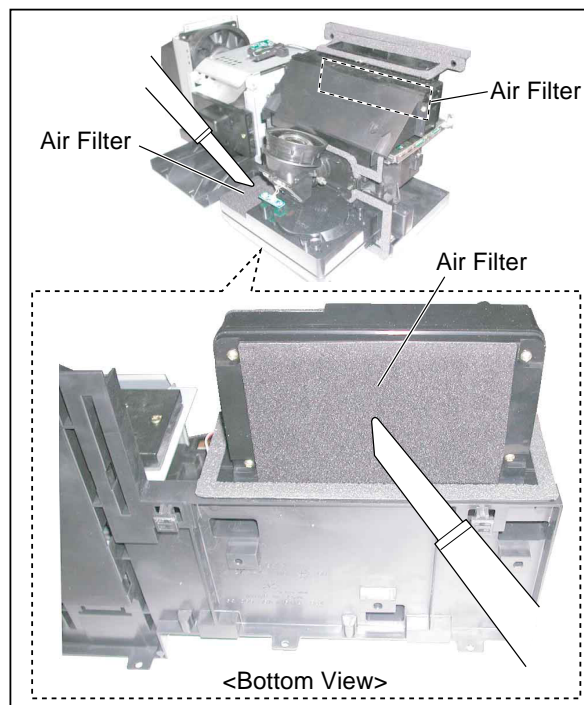


Fig. 6-3

### THE PROJECTION LENS

Use lens cleaning paper and cleaner available at your local camera shop, etc. Dampen the cleaning paper with cleaner and gently wipe the surface of the lens from the center outward to remove dust.

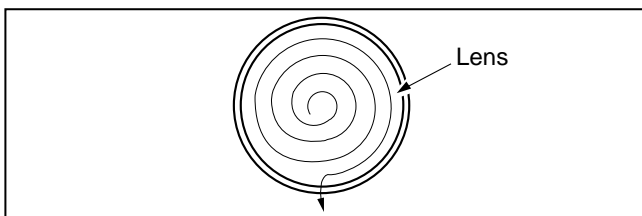


Fig. 6-4

### THE POLARIZER UNIT, THE FIELD LENS, THE RELAY LENS, THE CONDENSER LENS, THE DICHOIC MIRROR, THE FULL MIRRORS, THE INTEGRATOR AND THE P/S CONVERTER

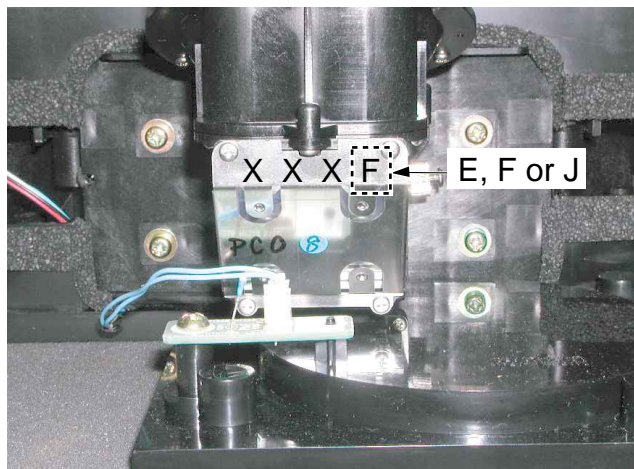
Make sure that no dust gets on the optical components such as the Polarizer Unit, the Field Lens, the Relay Lens, the Condenser Lens, the Dichroic Mirror, the Full Mirrors, the Integrator and the P/S Converter. Clean these optical components with cleaning paper moistened with pure ethyl alcohol or a lens cleaner which contains no water or oil.

### THE LCD PANEL OF THE LCD/PRISM UNIT

- 1) Clean the surface of the LCD Panel of the LCD/Prism Unit with an air blower or wipe with a clean, or soft blush lightly.
- 2) If any dirt remains, lightly wipe the surface with a cotton swab moistened with pure ethyl alcohol or a lens cleaner which contains no water or oil. Use a new swab after each wiping so that dirt will not be re-deposited on the surface.

## TO DISTINGUISH THE PROJECTION LENS UNIT OR THE PROJECTION UNIT

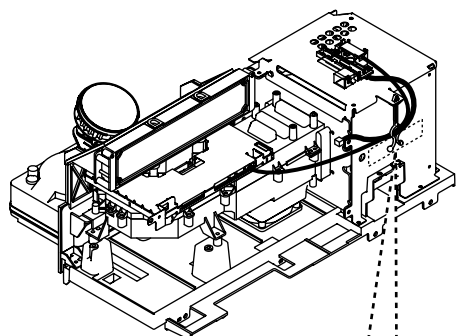
The only difference between the 44 inch model, the 52 inch model and the 61 inch model of the Projection Unit is the Projection Lens. To distinguish, see marking (E, F or J) on the Projection Lens.



<Front View>

E with red: for 44 inch model  
F with black: for 52 inch model  
J with blue: for 61 inch model

And also, see the stamp on the Lamp Wall of the Projection Unit.



Stamp

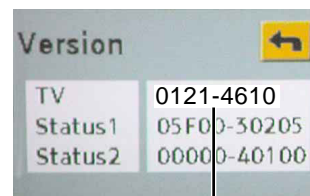
**44"LSXA0625** : for 44 inch model

**52"LSXA0626** : for 52 inch model

**61"LSXA0699** : for 61 inch model

## TO READ THE DIGITAL TUNER (PEAKS) SOFTWARE VERSION AND TV MICROCONTROLLER SOFTWARE VERSION

1. Press MENU key with the power on.
2. Press CH UP/DOWN key and select "Setup." Then press OK key.
3. Press CH UP/DOWN key and select "About." Then press OK key.
4. Select "Version" and press OK key. Version menu will appear as shown below. Starting with the second digit from the right or from the left.



0121-4610

Read every  
other number  
from the right:  
1420

Read every  
other number  
from the left:  
1160

TV Microcontroller software Ver. : 1.160

Digital Tuner (Peaks) software Ver. : 1.420

## WARNING

**In case of failure of Digital Tuner, it is required by law to return the defective board to PANASONIC CANADA INC. 5770 AMBLER DRIVE MISSISSAUGA ONTARIO L4W-2T3.**

## RESET USER'S MEMORY FUNCTIONS

Be sure to reset the user's memory:

- After replacing the Digital Tuner C.B.A.
- If the secret code of V-chip is forgotten.
- When moving the unit to a new location.

1. Turn on the power.
2. Press and hold the VOLUME DOWN button on the unit and the OK key on the remote for more than 3 seconds. When reset is finished, power shuts off automatically (the user's memory is reset).

## CLOGGED AIR FILTER DETECTION

When a dirty or clogged air filter is detected, the OSD display appears for 1 minute. And then the Lamp is turned OFF.

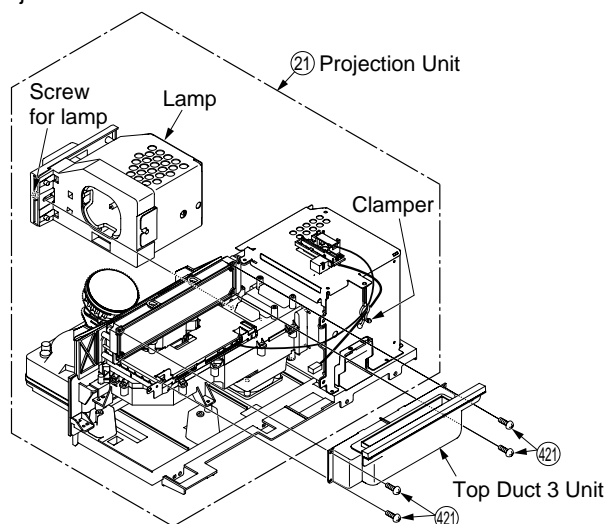
When this OSD display appears, remove the Projection Unit from rear, and clean the air filters gently on the Projection Unit.

AIR FILTER CLEANING  
IS RECOMMENDED AT THIS  
TIME. FIRST TURN THE  
UNIT OFF.  
PLEASE CALL FOR  
SERVICE.

UNIT WILL BE TURNED  
OFF AFTER 1 MINUTE.

## BEFORE REMOVING THE PROJECTION UNIT FROM THE UNIT AT THE USER'S LOCATION

When removing the Projection Unit, remove the Lamp and the Top Duct 3 Unit from the Projection Unit and keep them. Then, reinstall this Lamp and the Top Duct 3 Unit into the new Projection Unit.



## DO NOT UNPLUG AC CORD DURING COOLING OPERATION

The lamp cooling fan will continue to operate for approximately 1 minute after the power is turned off.

At the same time, the POWER LED will flash red.

Do not disconnect the AC Cord from the power outlet and do not open any circuit breakers while the cooling fan is still operating.

## HOT CIRCUIT

Primary circuit exists on the Ballast C.B.A. and the Power C.B.A.

This circuit is identified as "HOT" on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

## MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C
NOT USED	PT

### Note:

Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "PT."

## WORK MODE, FACTORY ADJUST MODE, CAT MODE

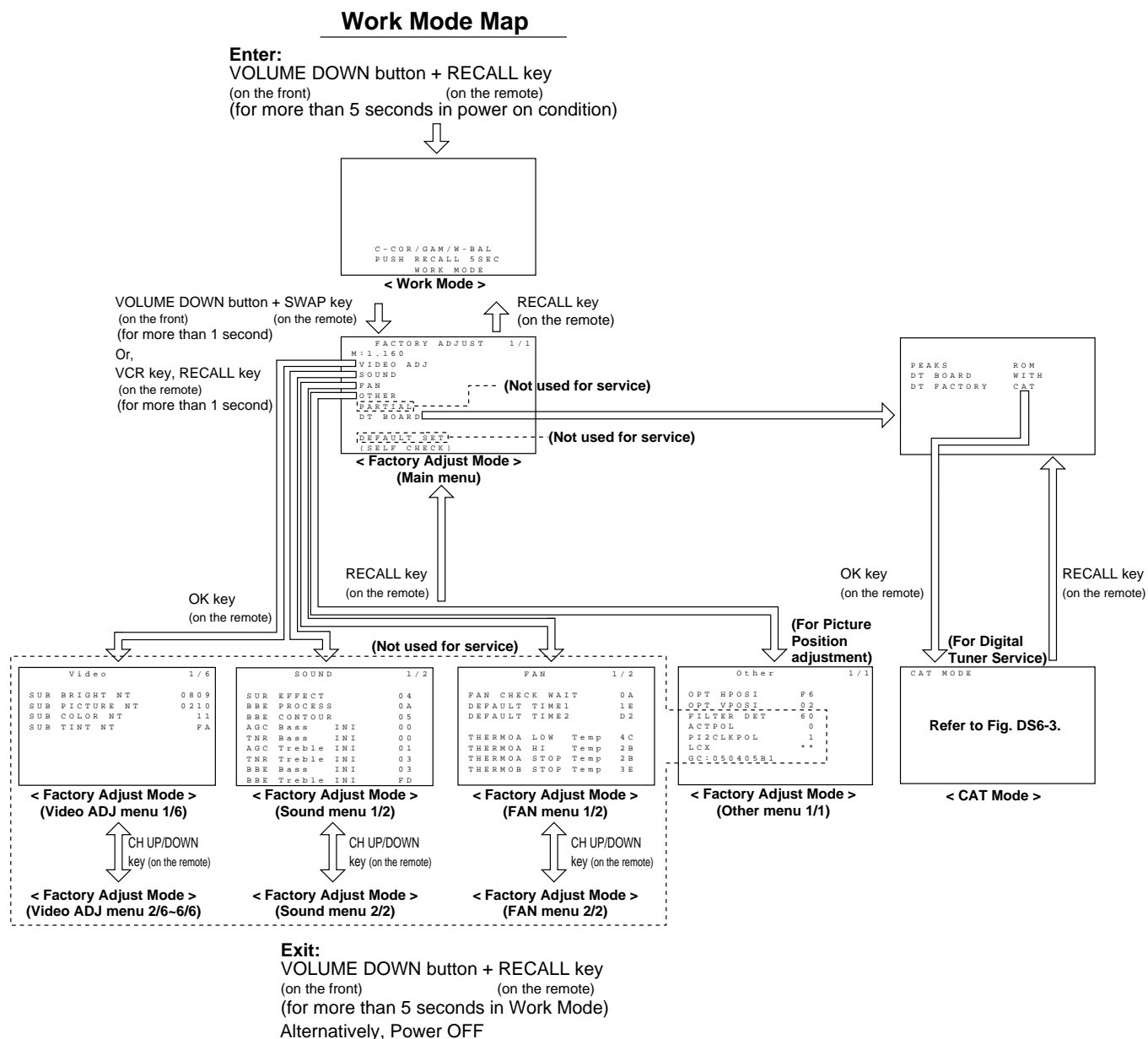


Fig. 8

### Factory Adjust Mode

This mode is required when:

- Performing Mechanical Picture Position, Focus and Electrical Picture Position adjustment (Other menu).

#### To enter the Factory Adjust Mode:

- 1) In Work Mode, press and hold the VOLUME DOWN button on the unit and the SWAP key on the remote together for more than 1 second. The unit will go into Factory Adjust Mode. ("FACTORY ADJUST" will appear on the screen.)
- 2) Press CH UP/DOWN key to select and press the OK key to set the item to be adjusted.
- 3) After completing adjustments, press RECALL key twice to return to Work Mode.

Then the adjustment data will be written to the EEPROM IC (IC6006/IC6007) on the Main C.B.A.

#### Note:

**Do not unplug the AC Cord in Factory Adjust Mode or the adjustment data will not be written to the EEPROM IC.**

## HOW TO DISPLAY BKS SV NUMBER

### CAUTION:

Whenever IC5805 is replaced, record the BKS SV number in the BKS SV list along with the serial number of the set.

BKS SV list (example)

Date	Serial number	BKS SV number
4/15/2005	H4AA50050	B03A59CD66

### To display the BKS SV number:

- 1) Press the TV/VIDEO key on the remote to select the HDMI input in power on condition. Then, turn off the power.
- 2) Enter the Service Mode.
- 3) Connect the HDMI interface to the HDMI input terminal.

#### Note:

When using the DVI interface, a DVI-HDMI conversion cable (e.g., TY-SCH03DH: sold by Panasonic) can be used.

- 4) Input signal from the HDMI interface. Then, the BKS SV number will be displayed and switched to new one.

```

SERVICE MODE                      1 / 3

LAMP OPERATION TIME

CURRENT LAMP :    2000 h
OSD DISPLAY  :      ON
LON COUNT   :    153
BKS SV :    4 B 7 E 3 D C A F B ← BKS SV number

```

<Service Mode (1/3)>

### CAUTION:

The BKS SV number will not be displayed correctly if no signal has been input.

Therefore, be sure that you are reading the new number that was switched to with the input signal in power on condition.

Be sure to record the BKS SV number in the BKS SV list after switching, and ignore the BKS SV number displayed before switching.



## WIRE AND LEAD POSITION DIAGRAM OF THE UNIT

After servicing, make sure that all wires, leads, and claspers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.

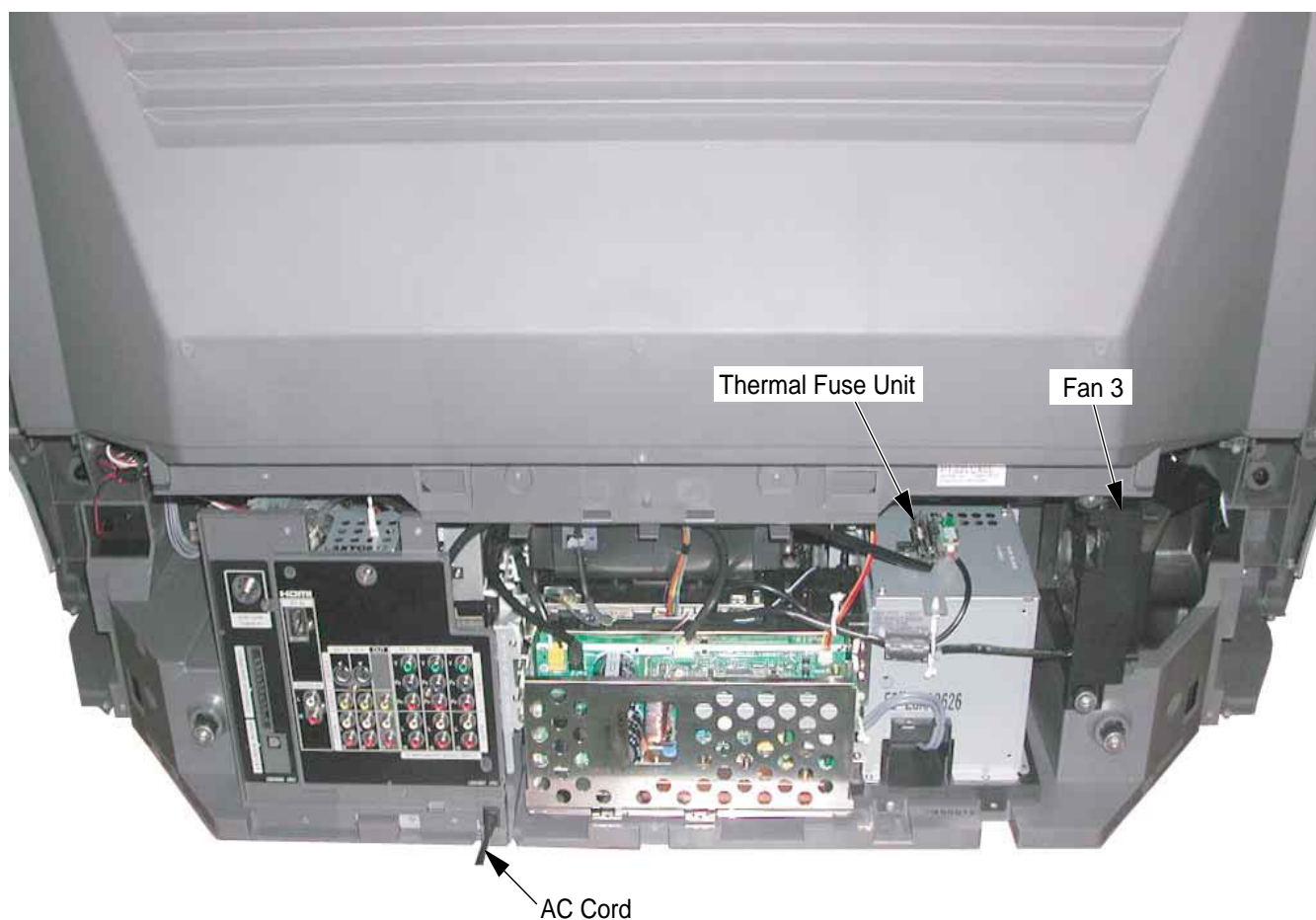


Fig. 9-1

After servicing, make sure that all wires, leads, and claspers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.

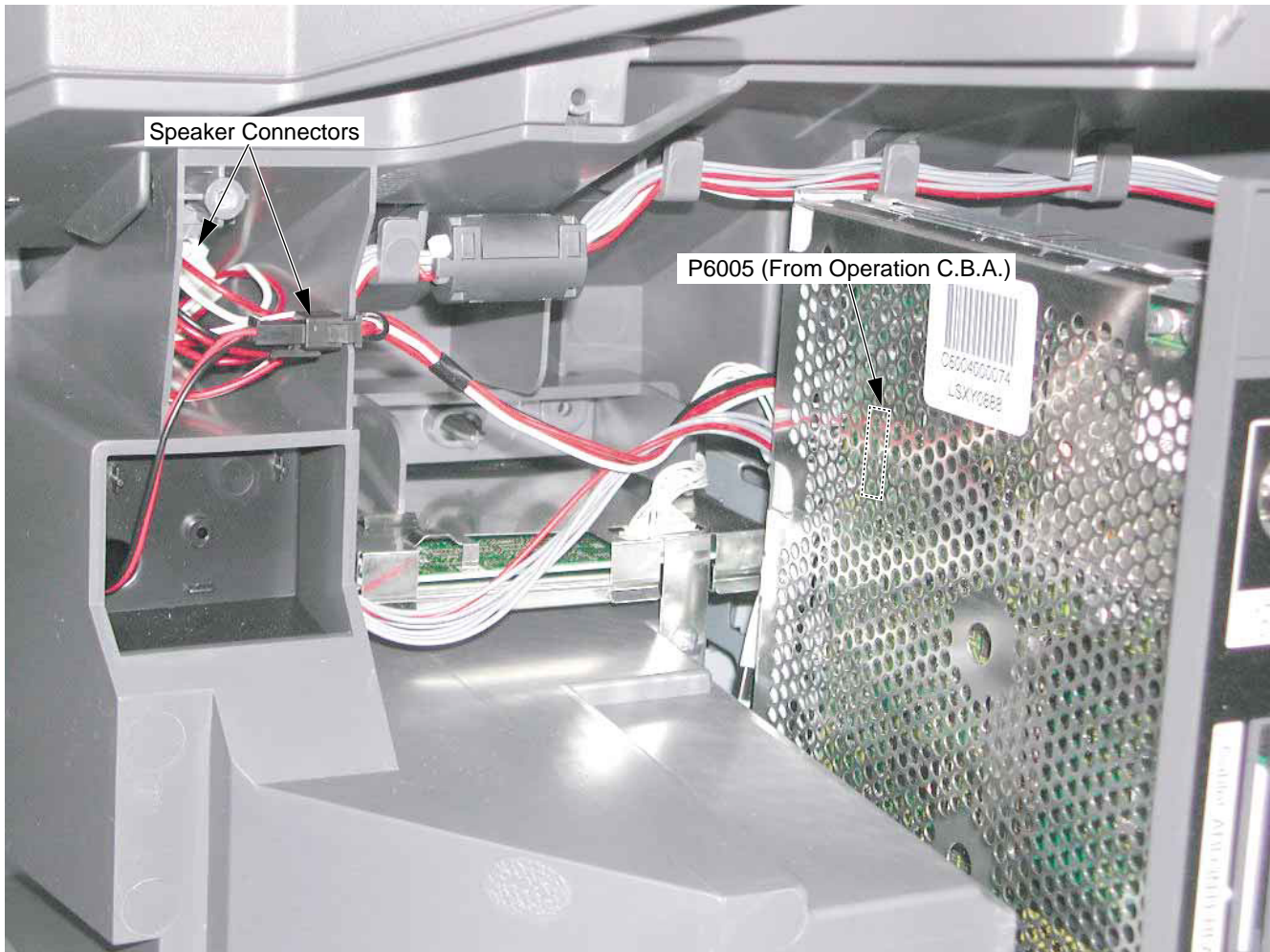


Fig. 9-2

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.



Fig. 9-3



After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.

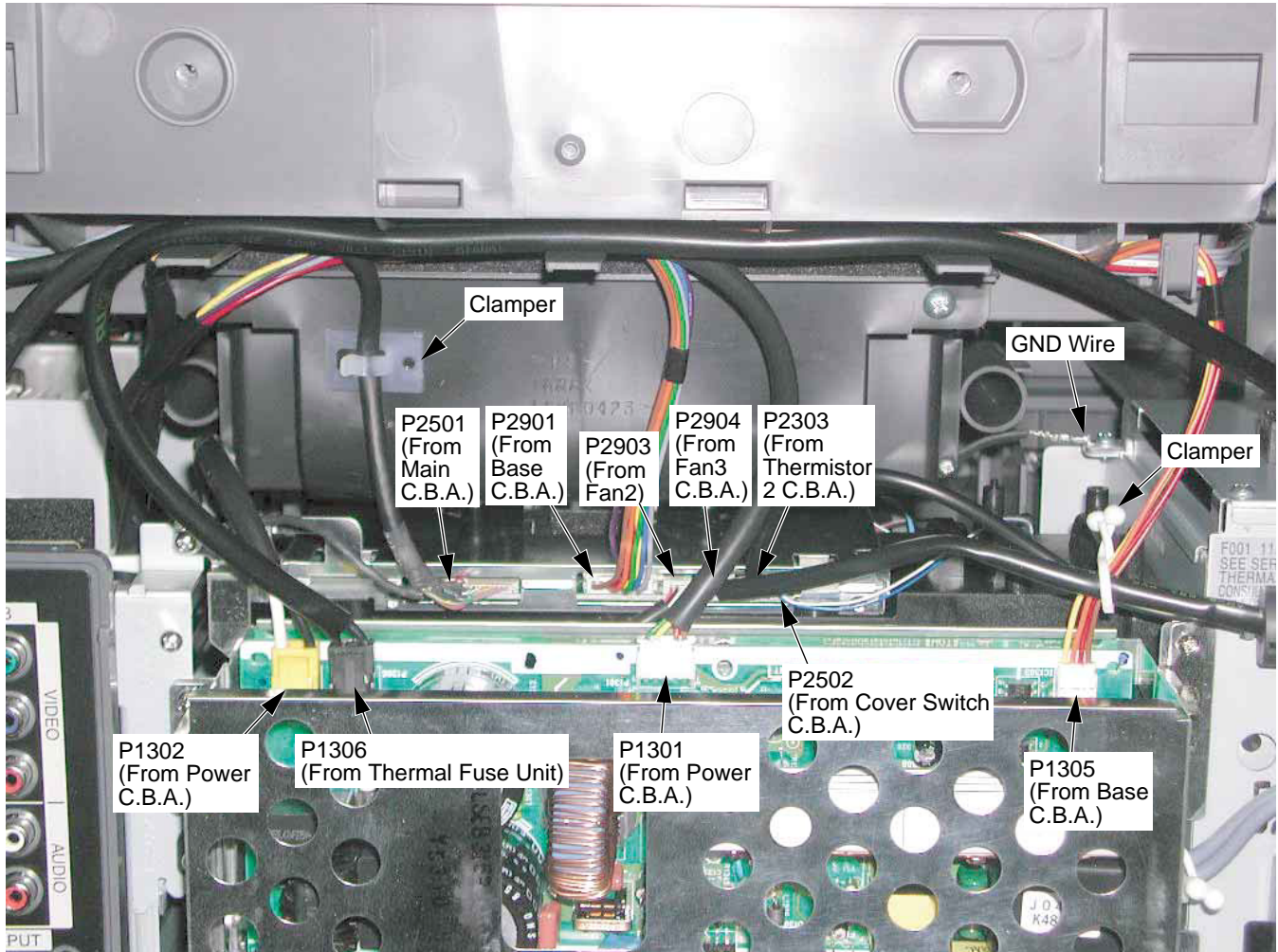


Fig. 9-4

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.



Fig. 9-5

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

**Note:** Use extreme care especially for the following.

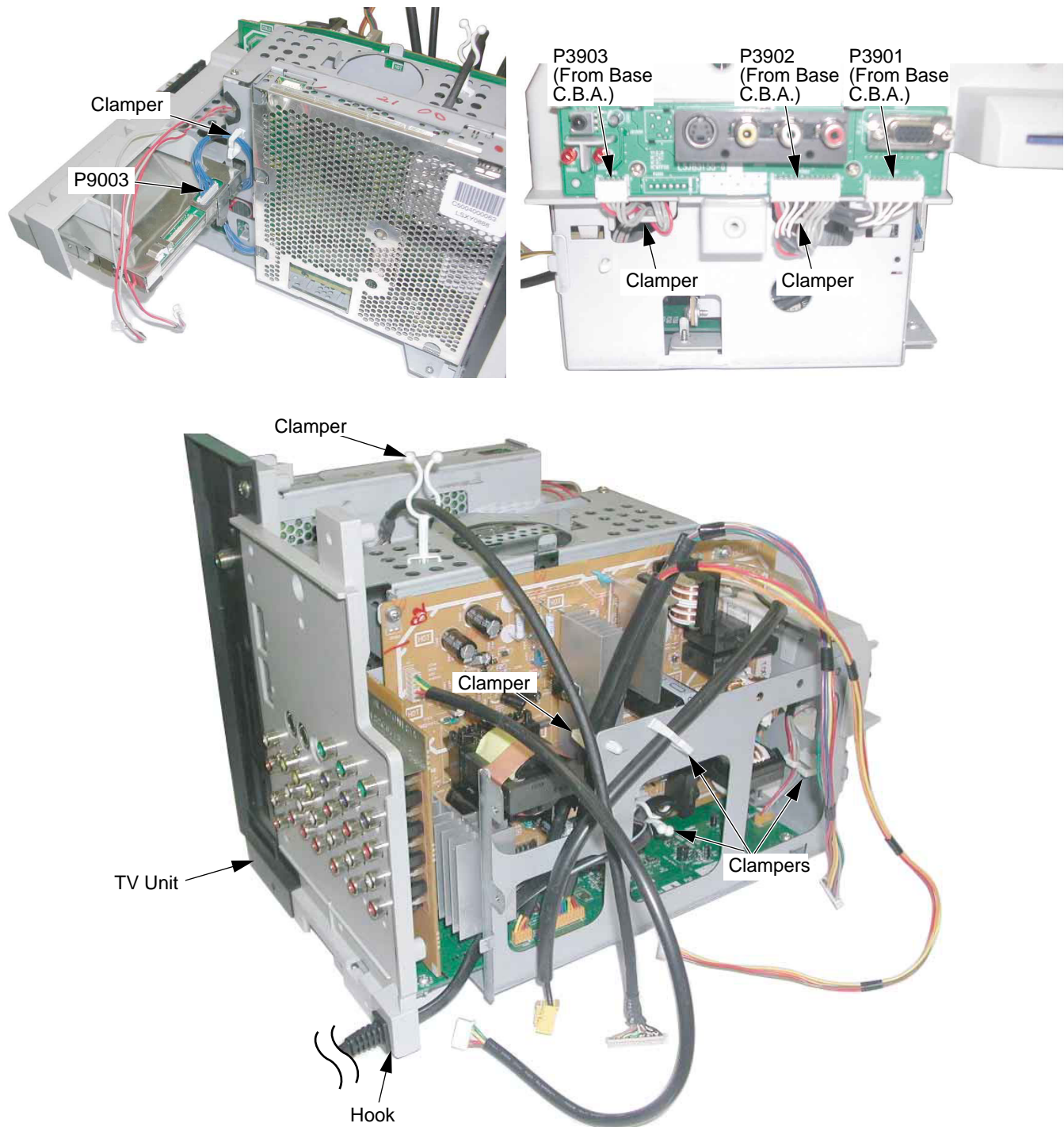


Fig. 9-6

## IC INFORMATION

### IC2001, IC2002, IC2003, IC2505, IC5301, IC5805 LOCATION

Make sure to install IC in the correct position on the CBA as shown.

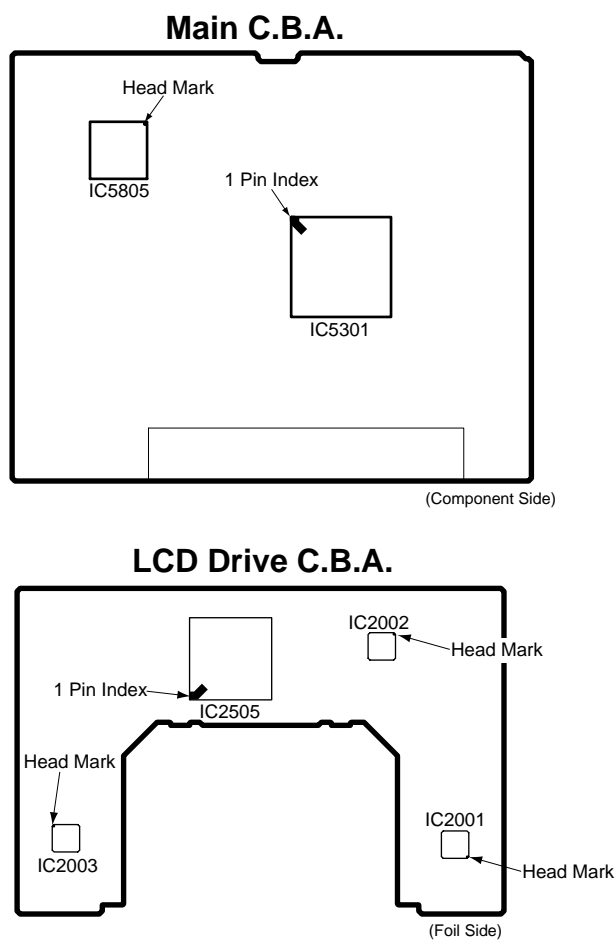
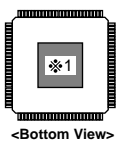


Fig. 10-1

## - IC2001, IC2002, IC2003 on the LCD Drive C.B.A.

The area as indicated with ※1 is connected with the LCD Drive C.B.A. with solder for conductive heat sink.



(IC Removal hint)

- Use the Blower (heat up) from the top to remove.

(IC Installation hint)

- Solder the ※1 area of IC.

If can not solder, make the solder remained on PC board where ※1 area is connected with as flat as possible.

### TEMPERATURE PROFILE FOR HEAT RESISTANCE OF THIS IC

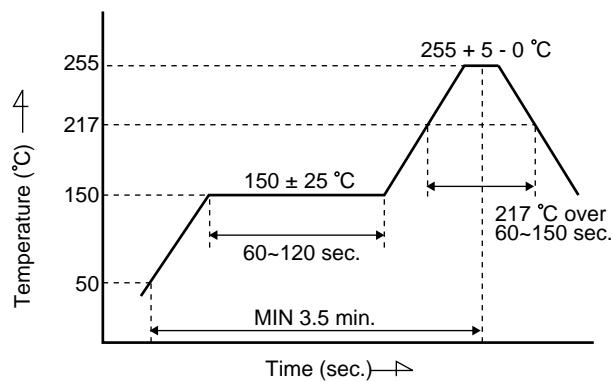
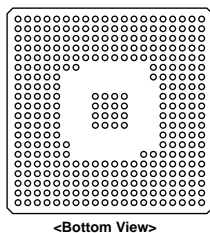


Fig. 10-2

## - IC2505 (CSP IC) on the LCD Drive C.B.A.



### TEMPERATURE PROFILE FOR HEAT RESISTANCE OF THIS IC

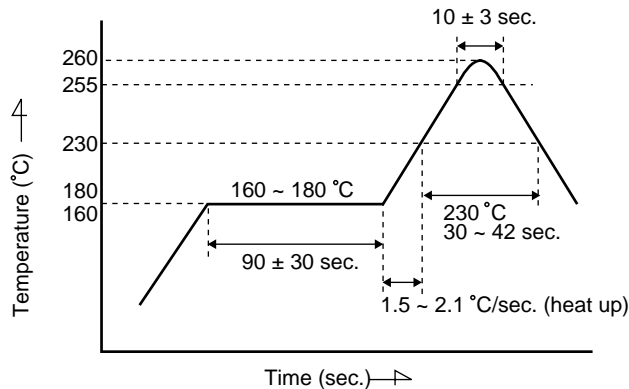
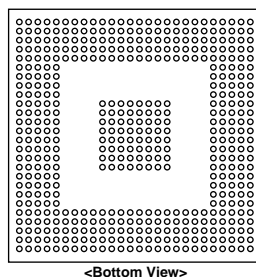


Fig. 10-3



## - IC5301 (CSP IC) on the Main C.B.A.



### TEMPERATURE PROFILE FOR HEAT RESISTANCE OF THIS IC

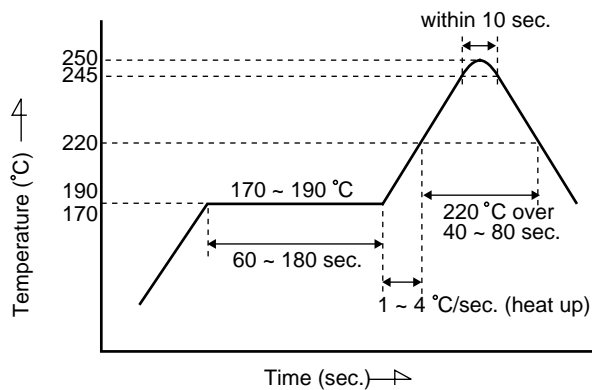
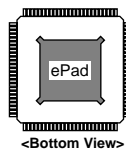


Fig. 10-4

## - IC5805 on the Main C.B.A.

The ePad of this IC, located on the bottom of the IC, is connected on the Main C.B.A. with solder.



(IC Removal hint)

- Use the Blower (heat up) from the top to remove.

**Note:**

This IC (HDMI IC) which was removed must be disposed of.

(IC Installation hint)

- It is necessary to connect the ePad area with the solder.

### TEMPERATURE PROFILE FOR HEAT RESISTANCE OF THIS IC

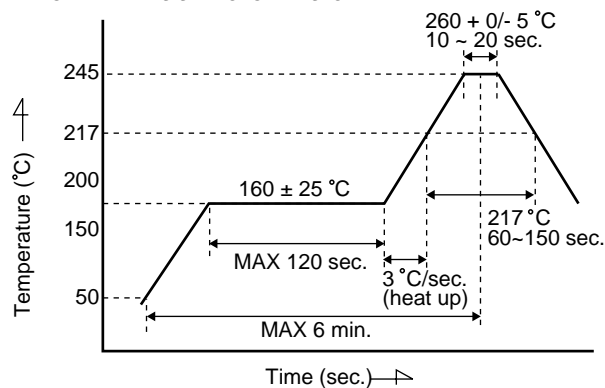


Fig. 10-5

## 5 SERVICE POSITION

Service Position	Purpose
Service Position (1)	Main C.B.A. check Front Jack C.B.A., Rear Jack C.B.A., Power C.B.A., Main C.B.A., Base C.B.A. check
Service Position (2)	LCD Drive C.B.A. check
Service Position (3)	Polarizer Adjustment of Projection Unit
Service Position (4)	Ballast C.B.A. check

### SERVICE POSITION (1) MAIN C.B.A. CHECK

It is possible to check the Main C.B.A. and also to check the Front Jack C.B.A., the Rear Jack C.B.A. the Power C.B.A., the Main C.B.A. and the Base C.B.A. by using the Monitor P.C.B. and the Converter P.C.B. without connecting the Projection Unit and the Ballast C.B.A.

The following service tool is required:

- Monitor P.C.B. (LSEP3102A)
- Converter P.C.B. (LSEP3164A)
- Signal Extension Cable (LSUA0037)
- Extension Cable 8P (LSUA0054)

The following equipment is required:

- XGA Color PC Monitor
- D-Sub 15 Pin RGB Cable (for connecting the Monitor P.C.B.)
- PC (2) for Test Pattern Signal
- D-Sub 15 Pin RGB Cable (for connecting the PC Input Terminal)

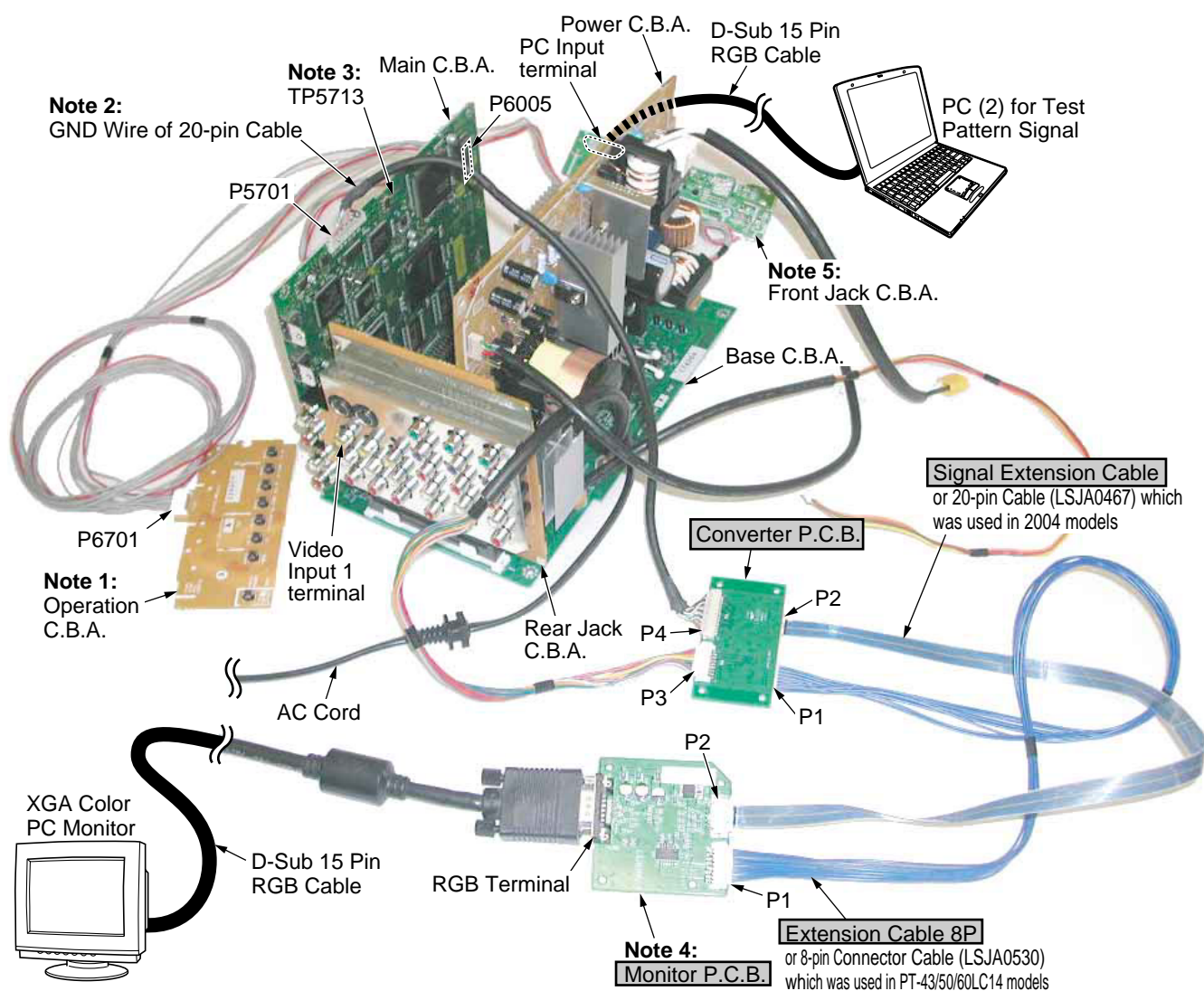


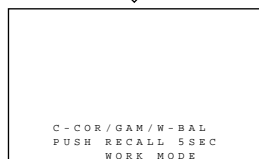
Fig. S1-1

**Note for Service Position (1):**

1. In this Position, check and service **must be done in the Work Mode** without the Digital Tuner C.B.A. installed.  
Also, after Work Mode is entered, wait approx. 10 seconds until operation stabilizes.

### Work Mode Map

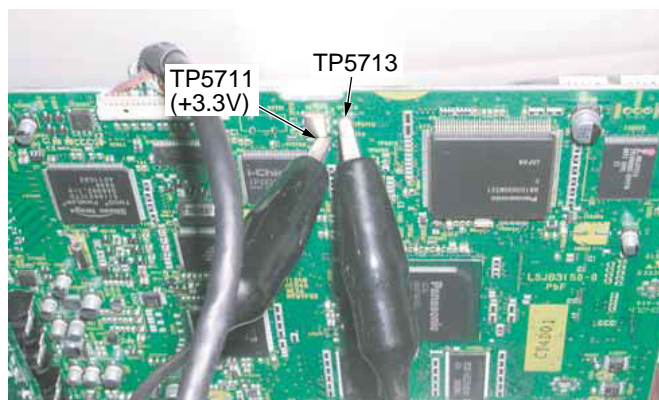
**Enter:**  
VOLUME DOWN button + RECALL key  
(on the front) (on the remote)  
(for more than 5 seconds in power on condition)



< Work Mode >

**Exit:**  
VOLUME DOWN button + RECALL key  
(on the front) (on the remote)  
(for more than 5 seconds in Work Mode)  
Alternatively, Power OFF

2. It is not necessary to connect the GND Wire of the 20-pin Cable when servicing.
3. To reduce the jitter noise on the XGA Color PC Monitor in this Service Position, connect the Clip to TP5713 and TP5711 (+3.3.V) on the Main C.B.A.



Main C.B.A. (Component Side)

Fig. S1-2

4. Any error detect functions such as Fan stop, temperature, etc. are defeated on the Monitor P.C.B.
5. When changing the input mode, point a remote at IR receiver on the Front Jack C.B.A.

## POWER C.B.A. CHECK

It is possible to check the Power C.B.A. only with no load.

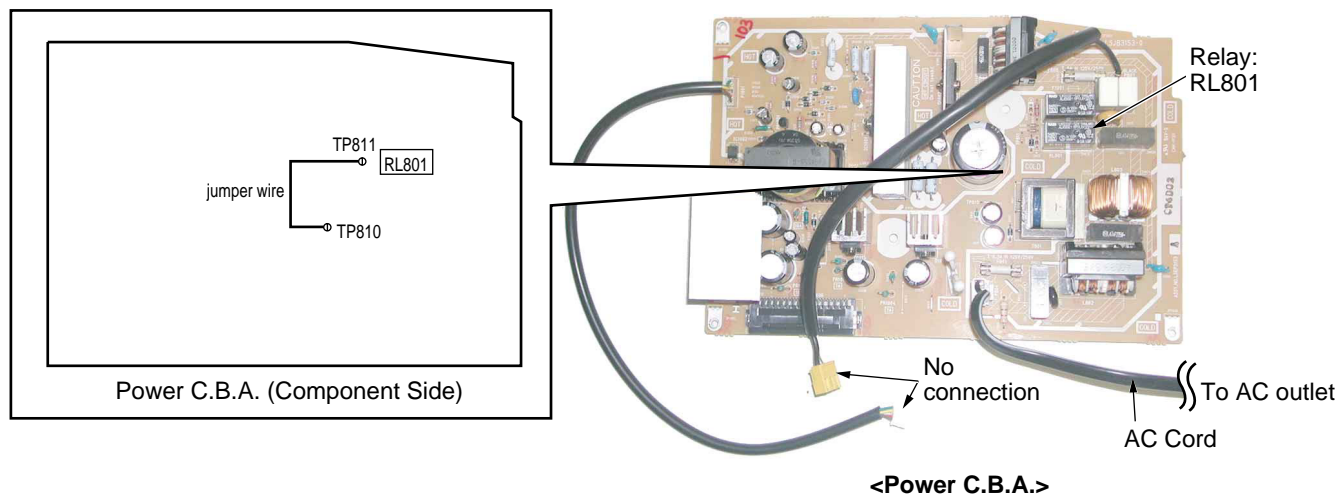


Fig. S1-4

Refer to "CHECKING THE POWER C.B.A." in "TROUBLESHOOTING HINTS FOR COMPONENT LEVEL REPAIR."

### Note:

To turn on the relay (RL801), connect a jumper between TP810 and TP811 by soldering. Then, plug in AC Cord (snap sound).

## POWER C.B.A. AND BASE C.B.A. CHECK

It is possible to check the Power C.B.A. and the Base C.B.A. only with no load.

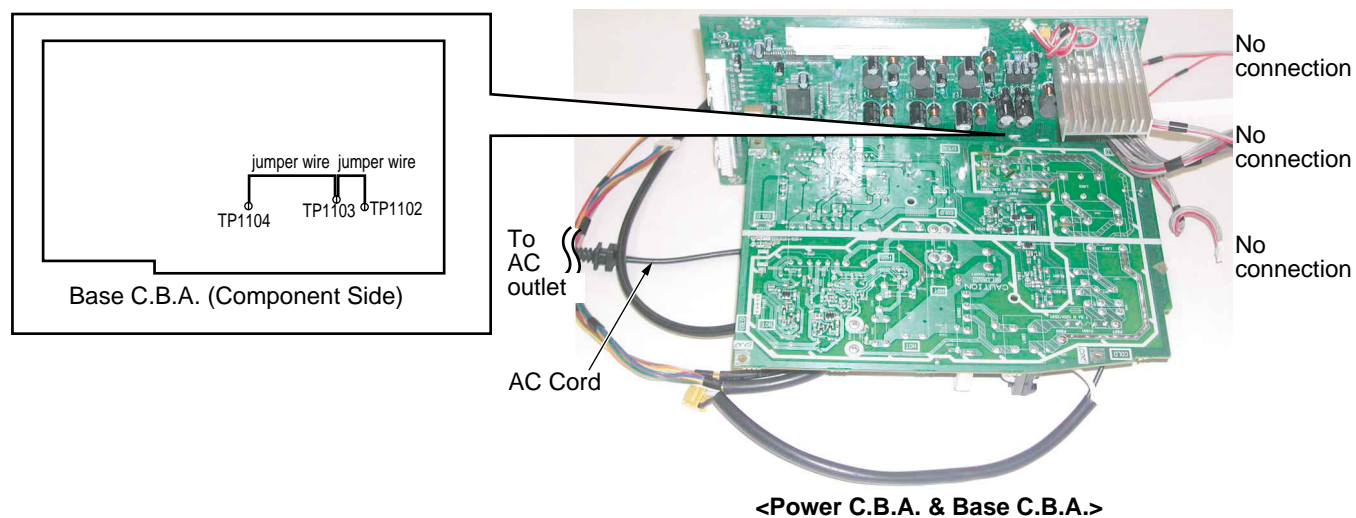


Fig. S1-5

Refer to "CHECKING THE TV UNIT" in "TROUBLESHOOTING HINTS FOR COMPONENT LEVEL REPAIR."

## SERVICE POSITION (2) LCD DRIVE C.B.A. CHECK

It is possible to check the LCD Drive C.B.A. without connecting the Projection Unit and the Ballast C.B.A.

The following service tools are required:

- Cover Switch Defeat Cable (LSUA0041)

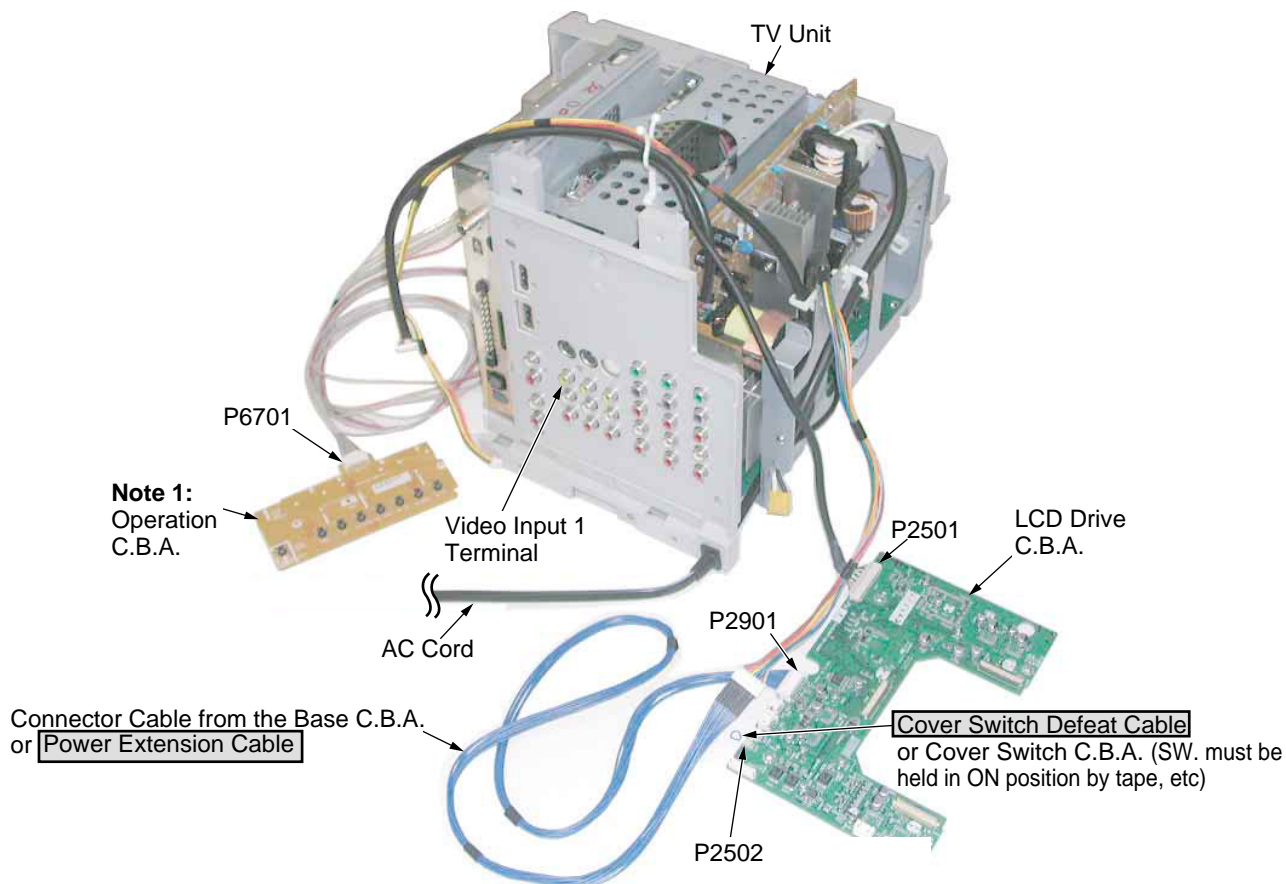


Fig. S2-1

Alternative method:

Connect the same Extension Cables (service tools) as 2004 models and check it in normal mode.

### Note for Service Position (2):

- Set to a desired input mode with the TV/VIDEO key before servicing. Then, be sure to enter the **ERR DET OFF MODE** to defeat any error detect functions.

**CAUTION:**  
Do not install the Ballast C.B.A. in this mode.

**Enter :**  
VOLUME DOWN button + ASPECT key  
(on the front) (on the remote)  
(for more than 5 seconds in power off condition)

↓ Power ON

```
SERVICE Mode 1 / 3
(ERR DET OFF MODE)
LAMP OPERATION TIME
CURRENT LAMP: 2000h
OSD DISP : ON
LOW COUNT : 153
RESV: B0 3A 59 CD 66
CAUTION: MAKE SURE ALL
FAN IS ROTATING
DURING LAMP ON
```

<ERR DET OFF MODE>

**Exit :** Power off.



## SERVICE POSITION (3)

### FULL MIRROR ADJUSTMENT & POLARIZER ADJUSTMENT OF PROJECTION UNIT

It is possible to adjust the Full Mirror and Polarizer of Projection Unit.

The following service tools are required:

- LCD Panel Flat Extension Cable X3
- Relay P.C.B. X3
- Fan1,3 Extension Cable (LSUA0039) X2
- Fan2 Extension Cable (LSUA0040)
- Power Extension Cable (LSUA0038)
- Thermistor 1 Defeat Cable (LSUA0003)
- Thermistor 2 Defeat Cable (LSUA0013)
- Cover Switch Defeat Cable (LSUA0041)

The following equipment is required:

- Screen
- PC (2) for Test Pattern Signal
- D-Sub 15 Pin RGB Cable (for connecting the PC Input Terminal)

The following original parts are not connected:

- Thermistor 1 C.B.A.
- Thermistor 2 C.B.A.
- Cover Switch C.B.A.

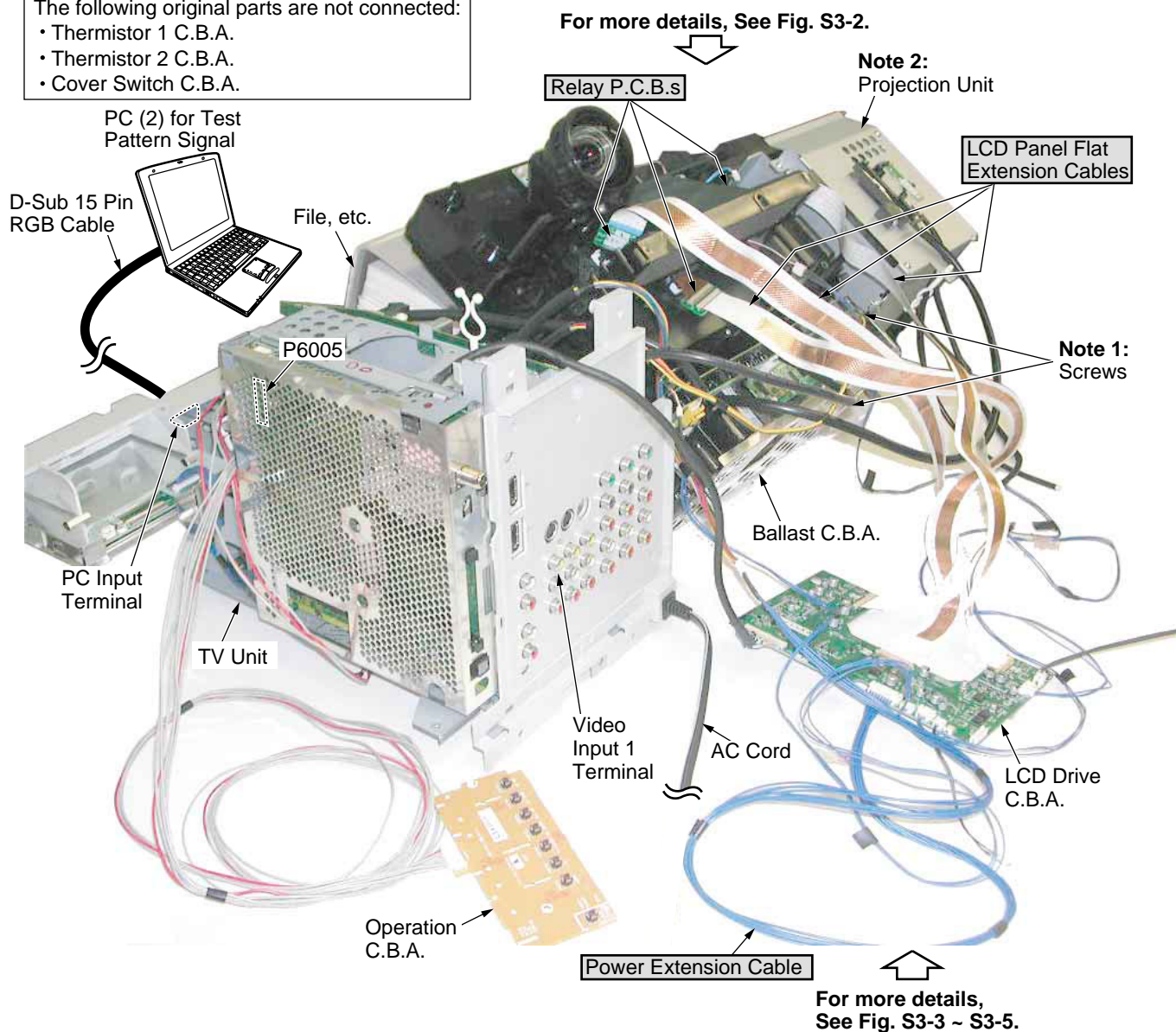
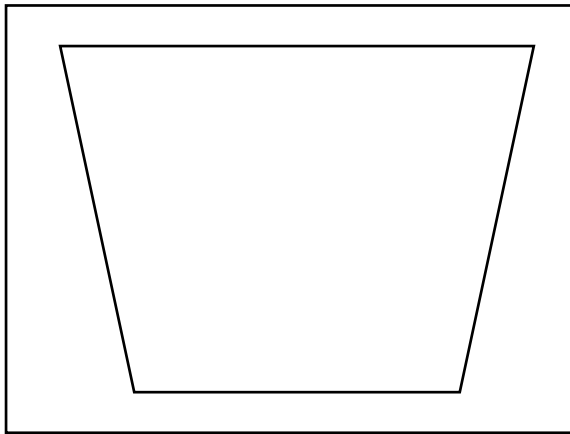


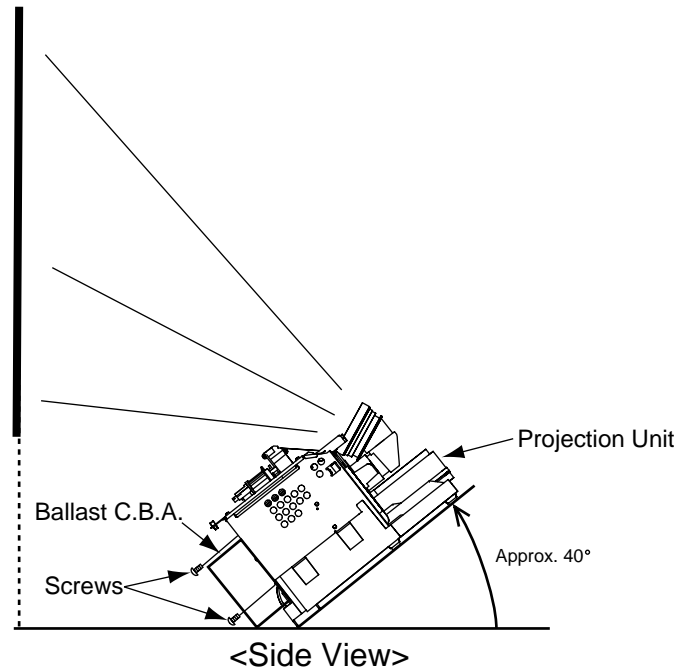
Fig. S3-1

**Note for Service Position (3):**

1. Tighten the 2 Screws on the Ballast C.B.A. to secure with the Projection Unit for stability.
2. Project the picture onto the white screen so that the picture be within the limits of the Screen as shown.

**<Mechanical Adjustment Setting>**

&lt;White Screen&gt;



&lt;Side View&gt;

### Detailed View for Service Position (3)

**Note:**

Take care not to apply excessive pressure to the LCD Panel Flexible Cables when servicing.

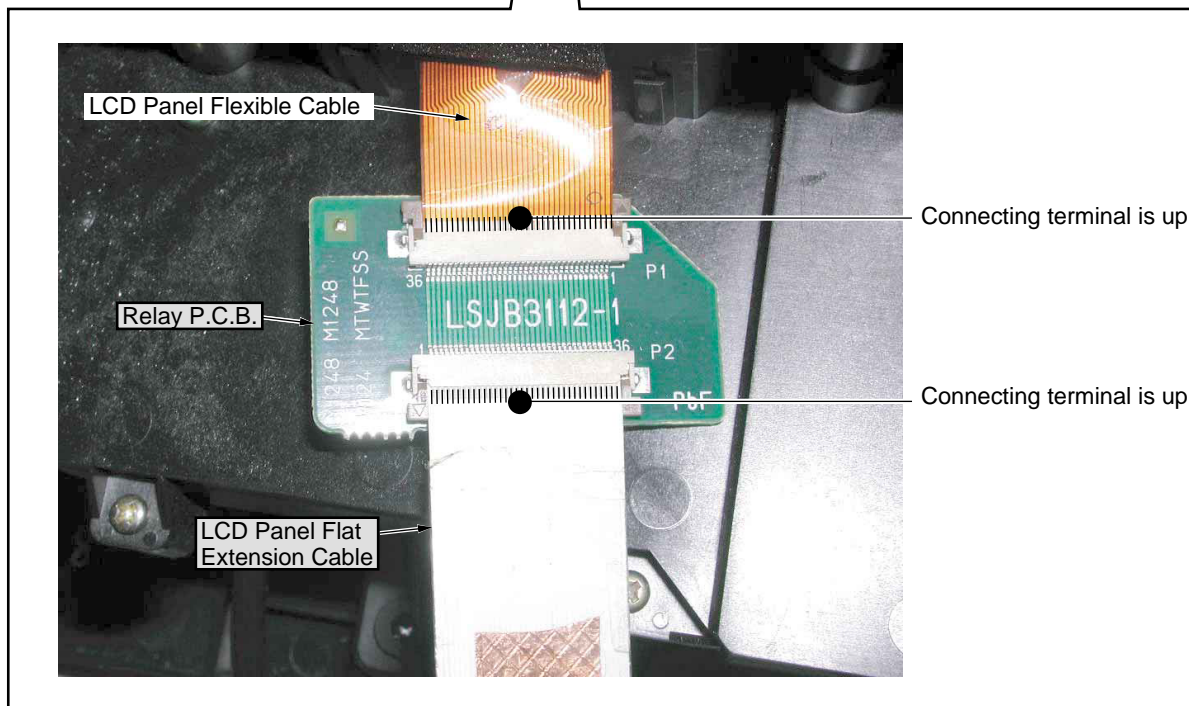
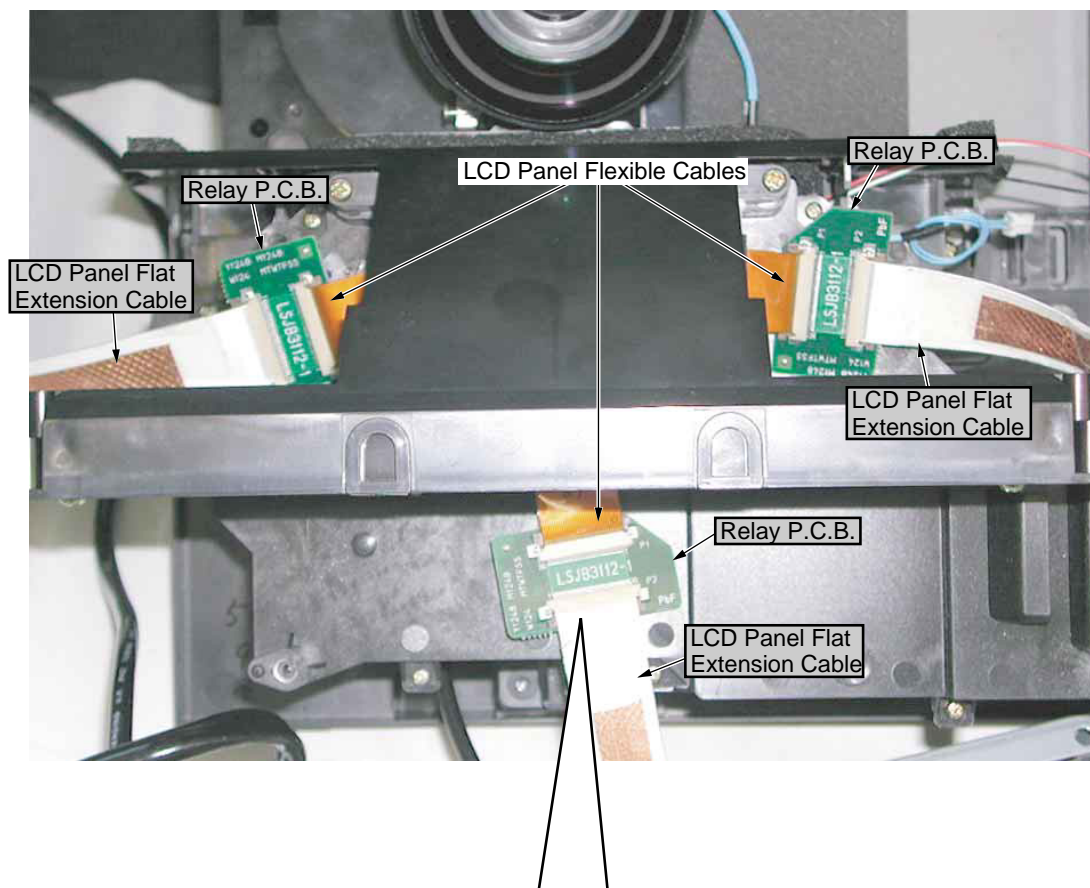


Fig. S3-2



### Detailed View for Service Position (3)

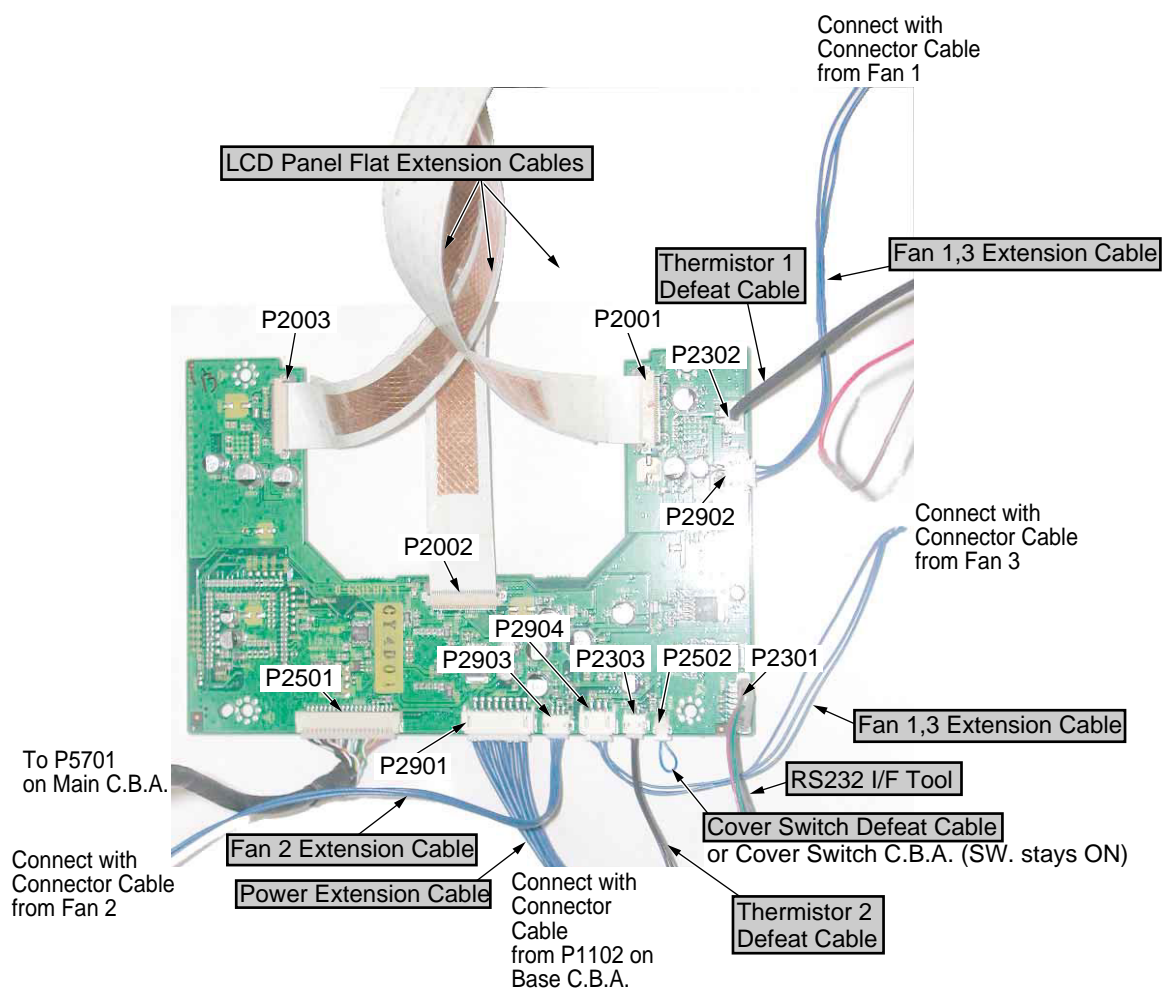


Fig. S3-3

### Detailed View for Service Position (3)

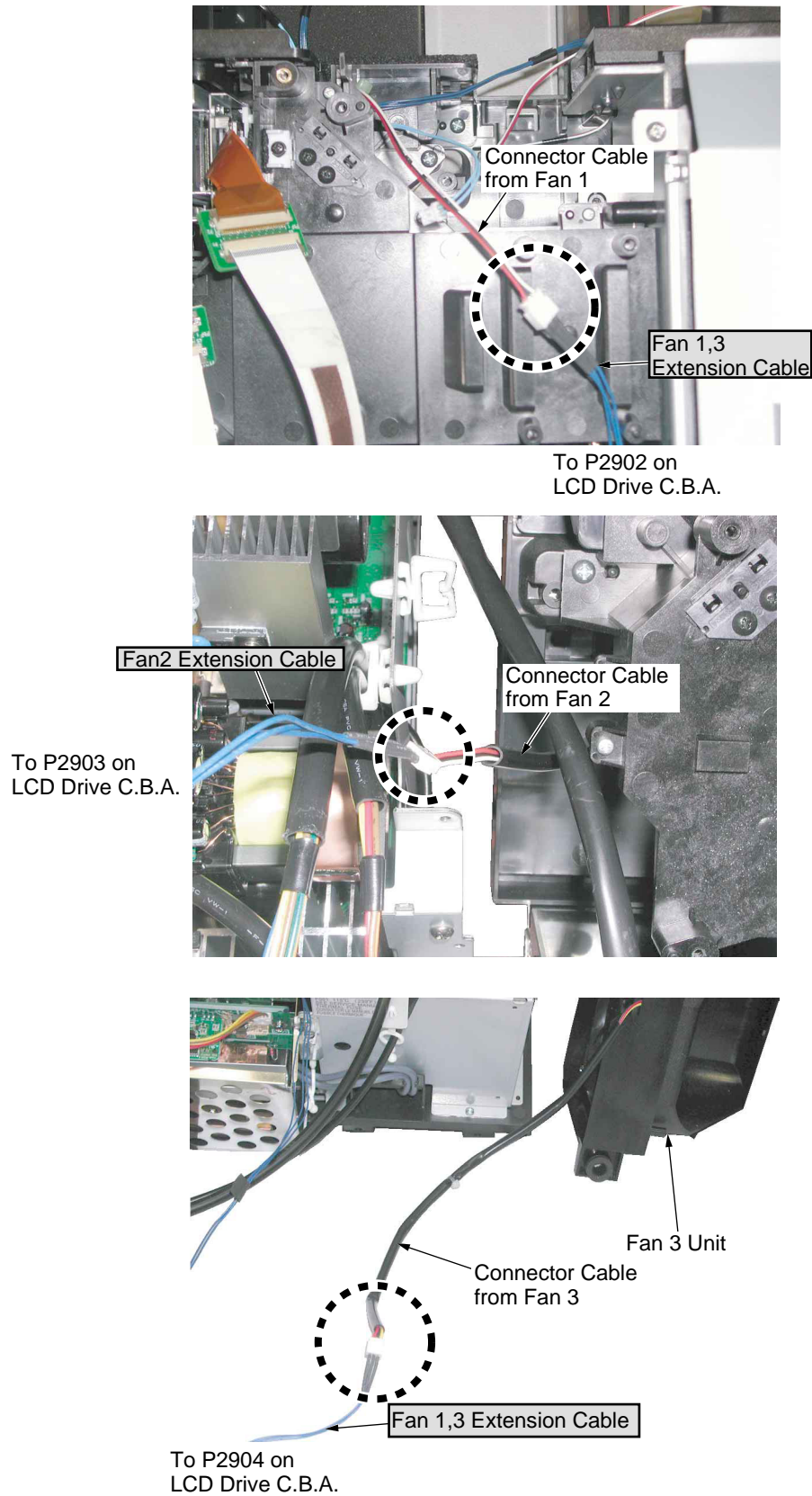


Fig. S3-4

### Detailed View for Service Position (3)

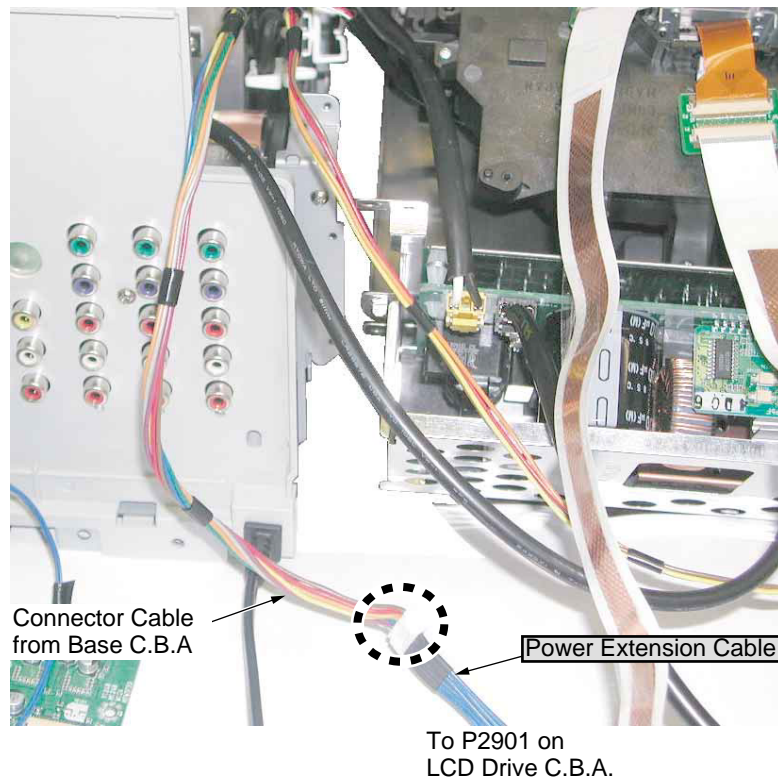


Fig. S3-5

## SERVICE POSITION (4) BALLAST C.B.A. CHECK

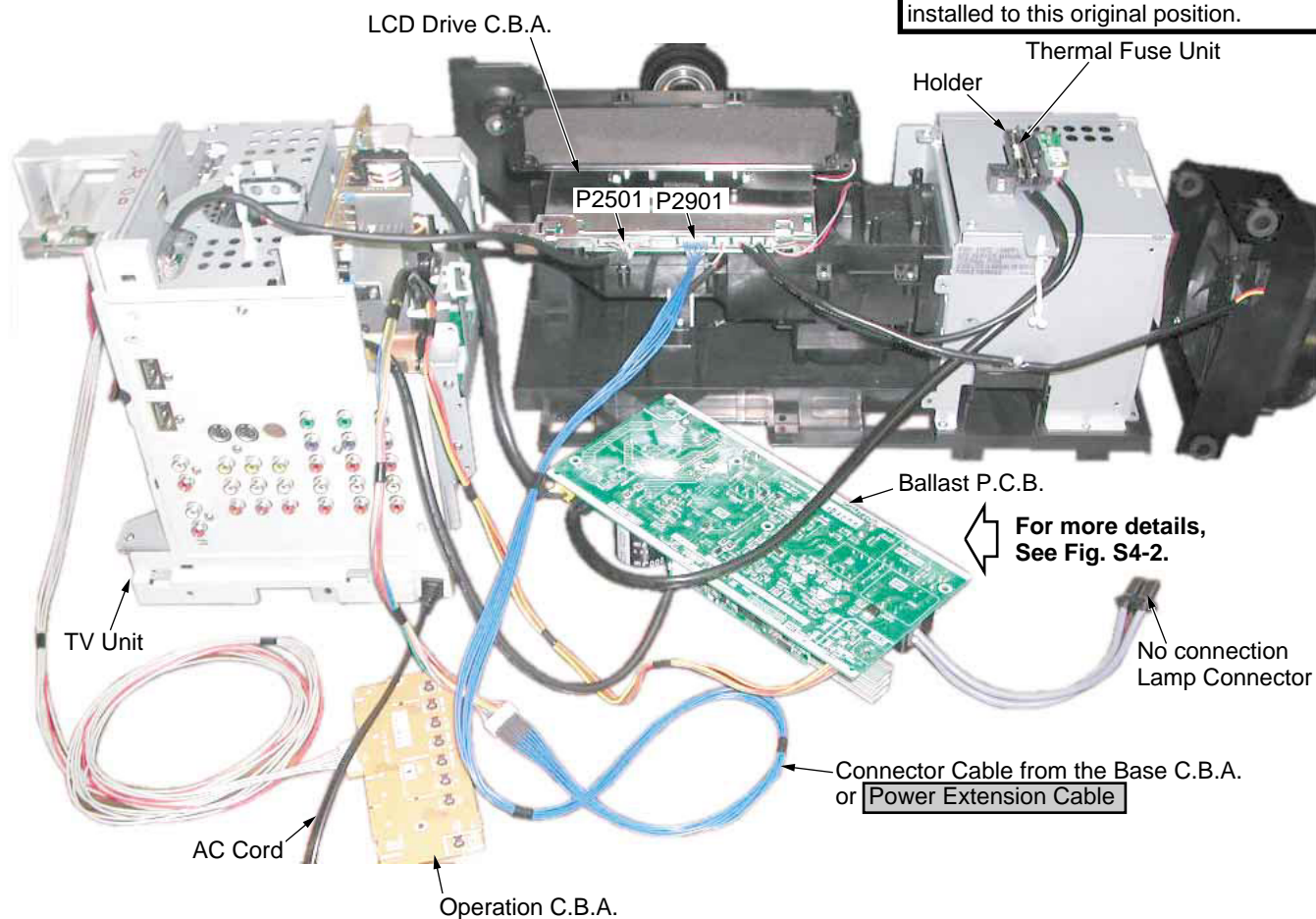
It is possible to check the Ballast C.B.A.

The following original parts are not connected:

- Ballast Shield Case Top
- Ballast Shield Case Bottom

### CAUTION:

Make sure that the Thermal Fuse Unit (F001) does not touch any metallic parts when the Thermal Fuse Unit is not installed to this original position.

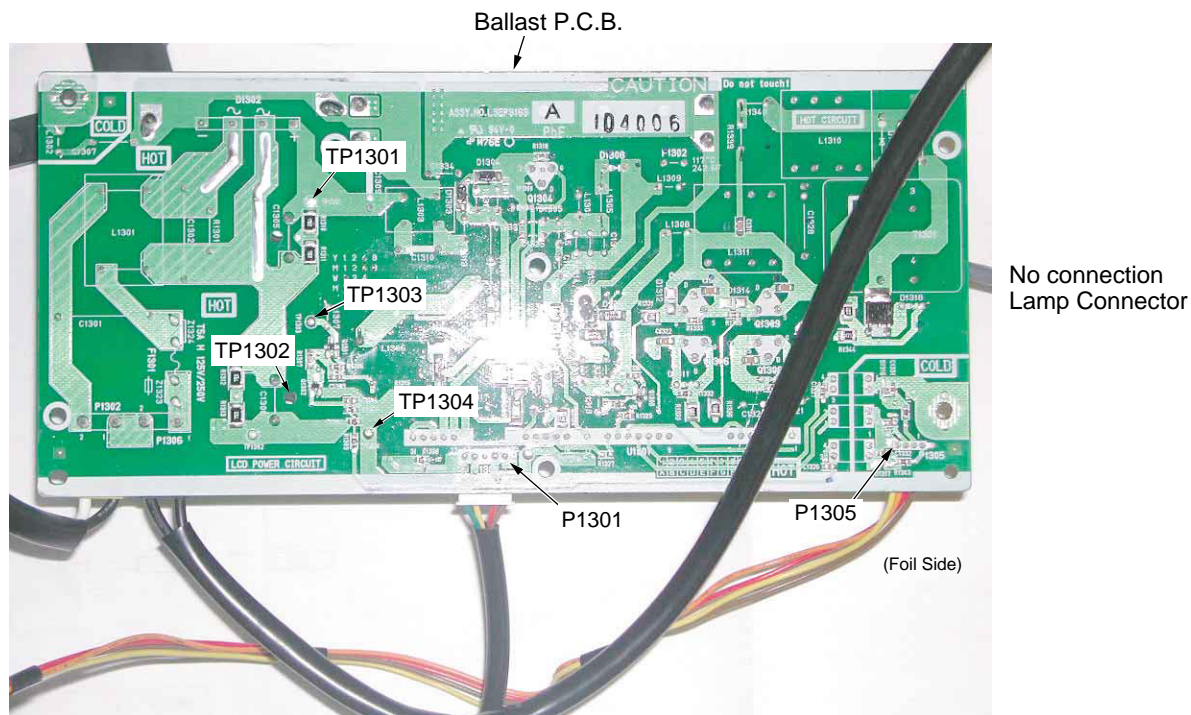


Refer to "CHECKING THE BALLAST C.B.A." in "TROUBLESHOOTING HINTS FOR COMPONENT LEVEL REPAIR."

Fig. S4-1



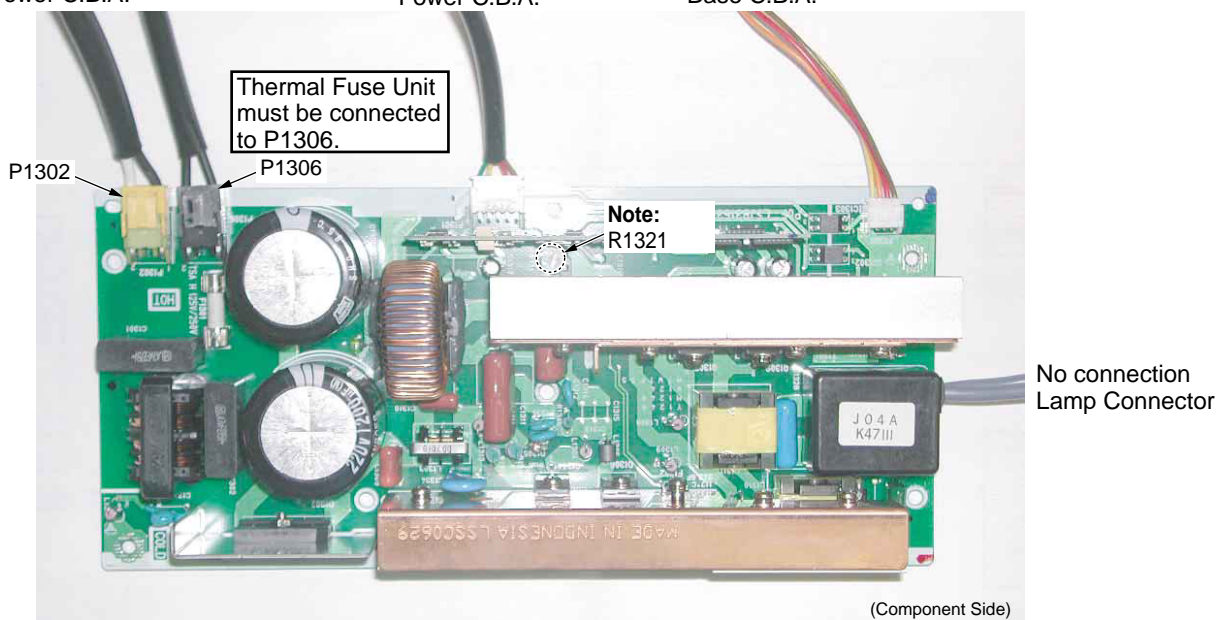
## Detailed View for Service Position (4)



To P807 on Power C.B.A.

To P1001 on Power C.B.A.

To P3007 on Base C.B.A.



&lt;With the Ballast Shield Case Top and the Ballast Shield Case Bottom removed&gt;

**Note:**  
When servicing the Ballast C.B.A., do not turn the Variable resistor (R1321) on the Ballast C.B.A.

Fig. S4-2

**LSEP3112A**  
**LSUA0042**

**Relay P.C.B.**  
**LCD Panel Flat Extension Cable**

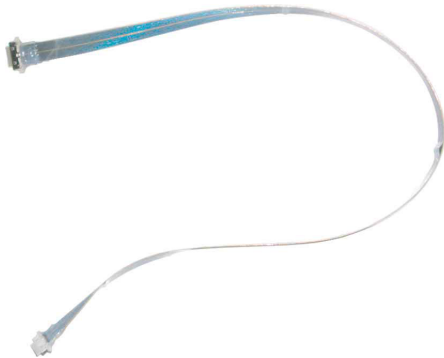


**Note:**

- 1) 3 of each are required for servicing.
- 2) Extension Cable-5 which was included in the 2002 model checker can be used for Relay P.C.B. (LSEP3112A) and LCD Panel Flat Extension Cable (LSUA0042).

**LSUA0037**

**Signal Extension Cable**

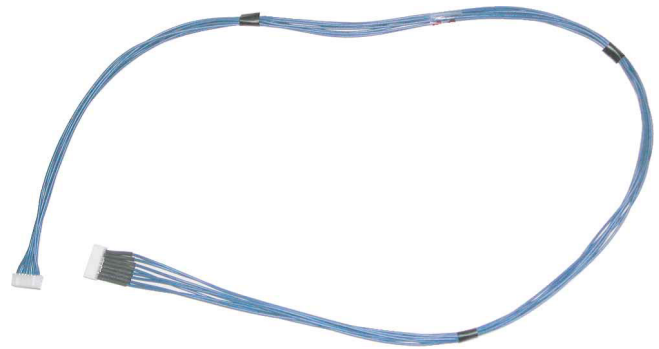


**Note:**

20-pin Cable (LSJA0467) which was used in 2004 model can be used for this service tool.

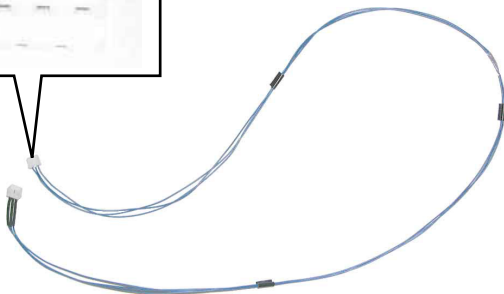
**LSUA0038**

**Power Extension Cable**



**LSUA0039**

**Fan1,3 Extension Cable**

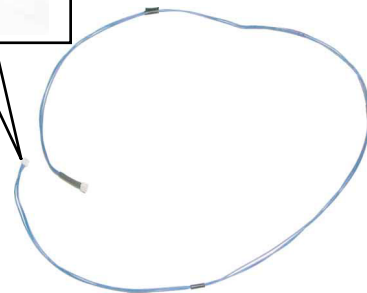


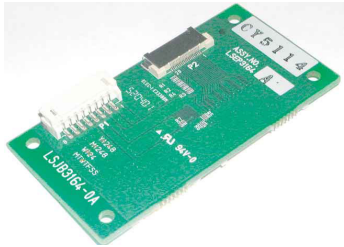

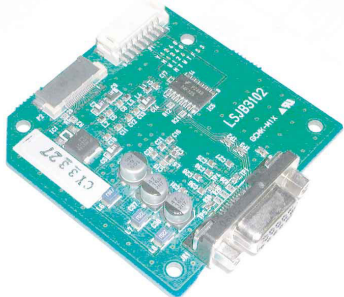


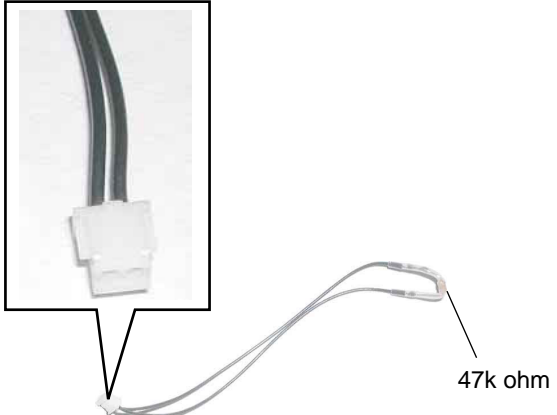
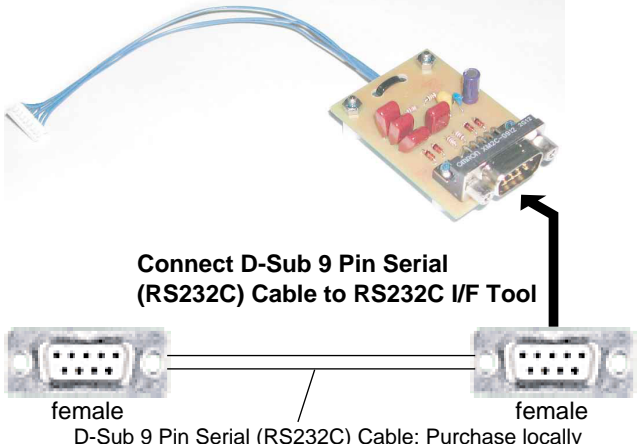

**Note:**

2 of each are required for servicing.

**LSUA0040**

**Fan2 Extension Cable**



<p><b>LSEP3164A</b> <b>Converter P.C.B.</b></p> 	<p><b>LSUA0054</b> <b>Extension Cable 8P</b></p>  <p><b>Note:</b> 8-pin Connector Cable (LSJA0530) which was used in PT-43/50/60LC14-K model can be used for this service tool.</p>
<p><b>LSEP3102A</b> <b>Monitor P.C.B.</b></p> 	<p><b>LSUA0041</b> <b>Cover Switch Defeat Cable</b></p>  <p><b>Note:</b> A replacement part (LSJA0476, LSJA0551), which is shorted, can be used for this service tool.</p>
<p><b>LSUA0003</b> <b>Thermistor 1 Defeat Cable</b></p>  <p>68k ohm</p> <p><b>Note:</b> Replacement part (LSJA0477), to which a 68k ohm resistor has been attached, can be used for this service tool.</p>	<p><b>LSUA0013</b> <b>Thermistor 2 Defeat Cable</b></p>  <p>47k ohm</p> <p><b>Note:</b> Replacement part (LSJA0533, LSJA0478), to which a 47k ohm resistor has been attached, can be used for this service tool.</p>
<p><b>LSUA0043</b> <b>RS232C I/F Tool</b></p>  <p>Connect D-Sub 9 Pin Serial (RS232C) Cable to RS232C I/F Tool</p> <p>female D-Sub 9 Pin Serial (RS232C) Cable: Purchase locally</p>	<p><b>RS232C Connecting tool</b> (For 2002 models (PT-40LC12/45LC12))</p>  <p><b>Note:</b> RS232C Connecting tool which was included in the 2002 model checker as shown above can be used for both RS232C I/F Tool (LSUA0043) and D-Sub 9 Pin Serial (RS232C) Cable.</p>



## 6 DISASSEMBLY/ASSEMBLY PROCEDURES

### 6.1. CABINET SECTION

#### CABINET SECTION

#### DISASSEMBLY METHOD OF CABINET SECTION

Cabinet section contains following removal procedures:

REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET

REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET

REMOVAL OF THE BASE BODY UNIT

REMOVAL OF THE FRONT JACK C.B.A., THE CARD C.B.A., THE REAR JACK C.B.A., THE POWER C.B.A., THE MAIN C.B.A. AND THE BASE C.B.A. FROM THE TV UNIT

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

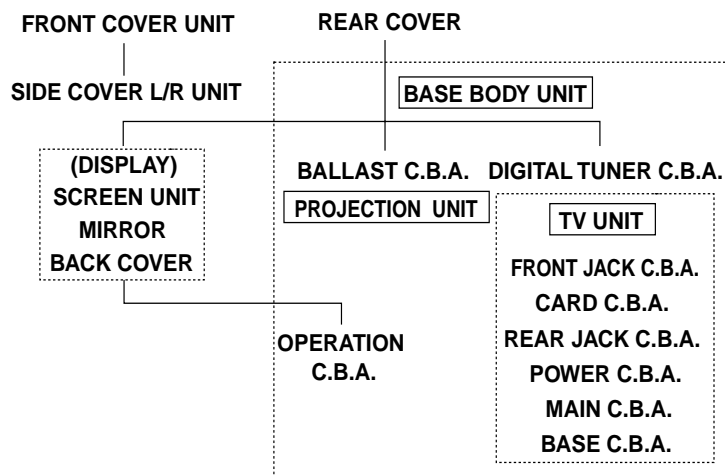
REMOVAL OF THE MIRROR FROM THE BACK COVER

REMOVAL OF THE OPERATION C.B.A. FROM THE CABINET

REMOVAL OF THE BALLAST SHIELD CASE TOP AND THE BALLAST SHIELD CASE BOTTOM

#### DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C. Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.



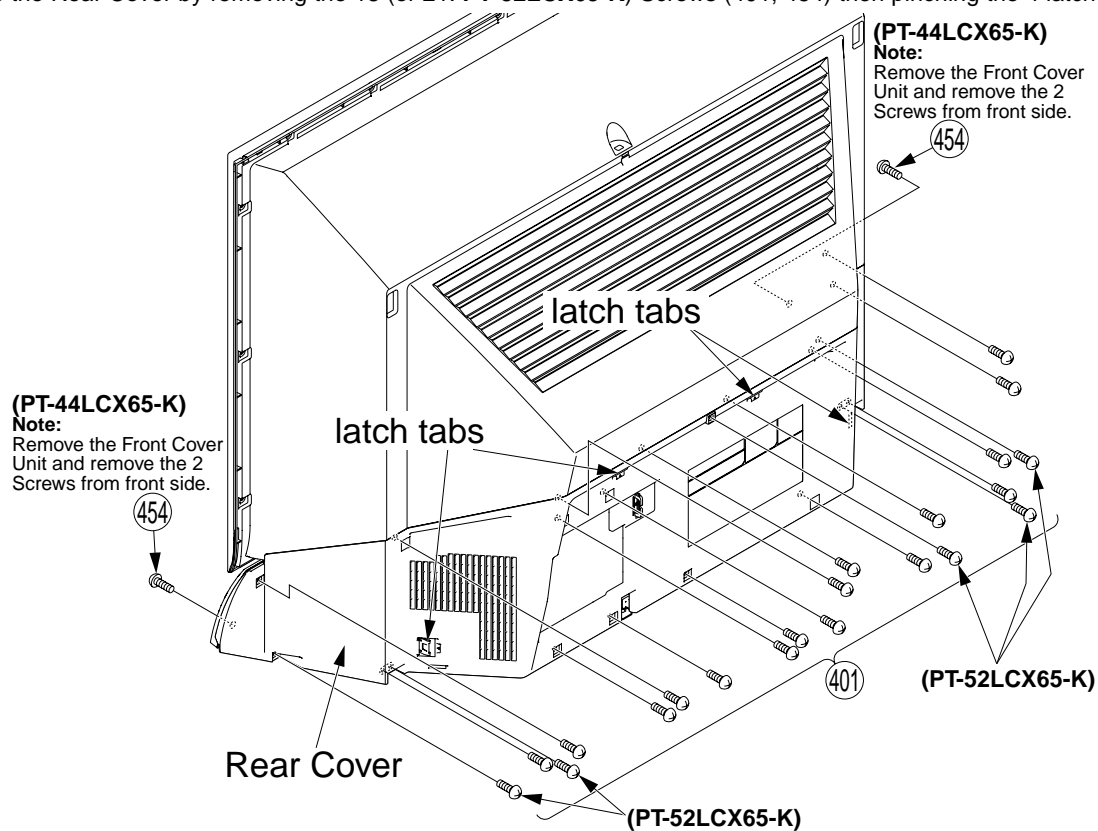
#### Note :

- Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
- When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
- Do not supply power to the unit during disassembly and reassembly.

## REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET

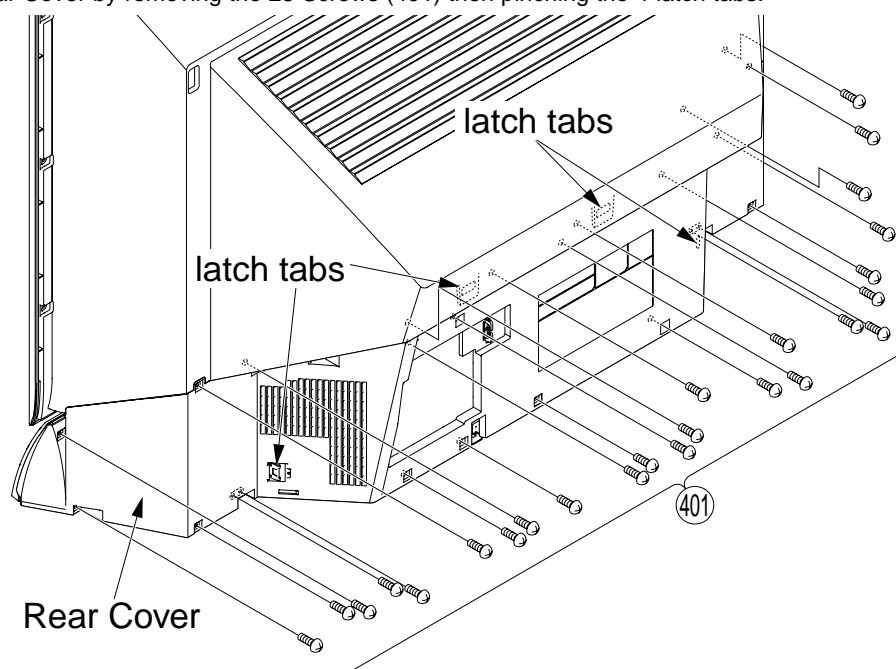
### 1. (PT-44LCX65-K/PT-52LCX65-K)

Remove the Rear Cover by removing the 18 (or 21: **PT-52LCX65-K**) Screws (401, 454) then pinching the 4 latch tabs.

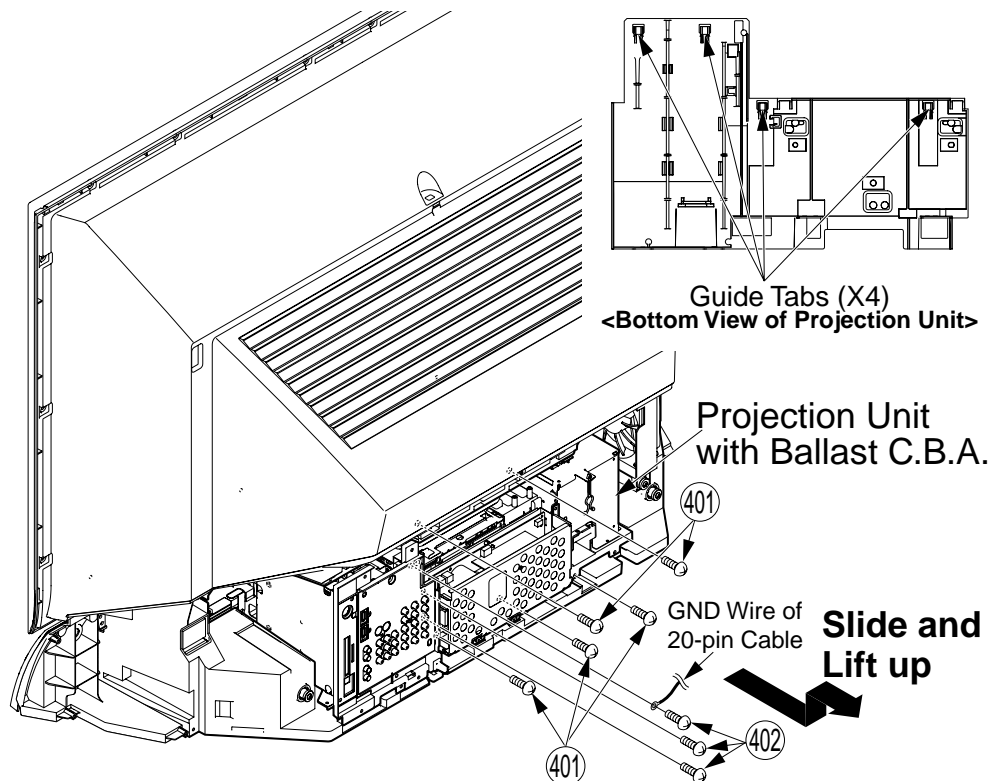


### (PT-61LCX65-K)

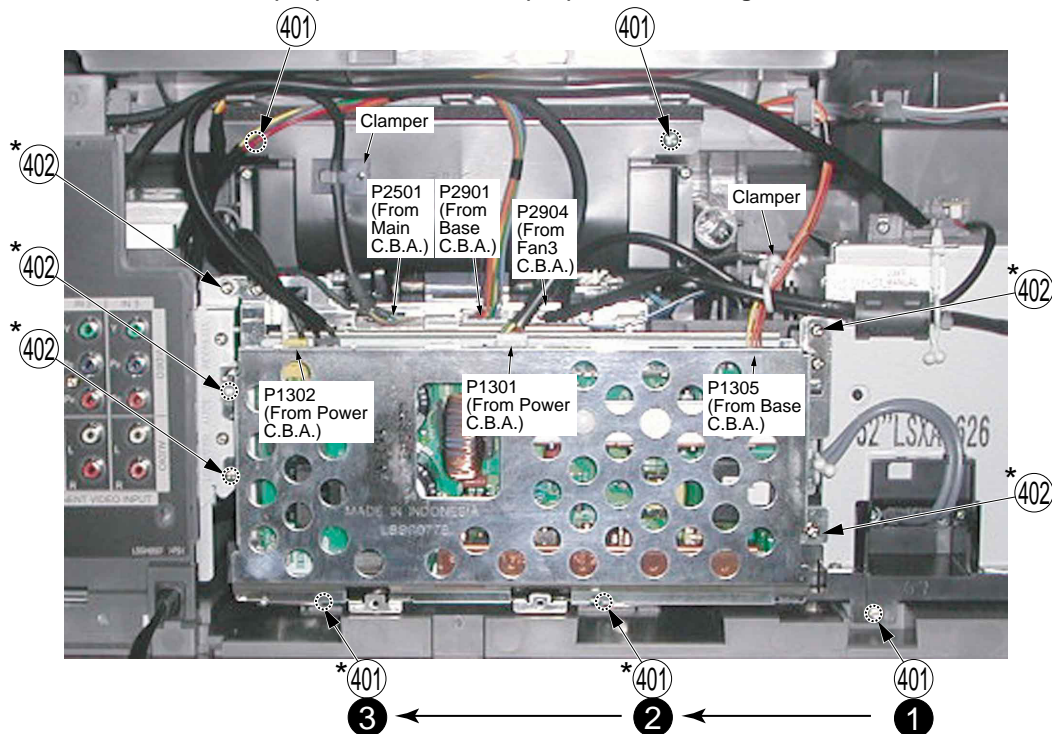
Remove the Rear Cover by removing the 25 Screws (401) then pinching the 4 latch tabs.



2. 1) Disconnect Connectors P1301, P1302, P1305, P2501 (20-pin Cable), P2901, P2904.  
**Note:** Take extreme care not to damage the 20-pin Cable when disconnecting.  
 2) Remove the 5 Screws (401) and the 3 Screws (402).  
 3) Slide and lift up the Projection Unit with the Ballast C.B.A. by releasing the 4 Guide Tabs.



\*: The 2 Screws \*(401) and the 5 Screws \*(402) are for removing the Ballast C.B.A.



**Reassembly Note:** When installing, tighten the 3 Screws (401) ① ② ③ in order.

Fig. D1-2

3. 1) Disconnect the Connector P1306.  
2) Remove the 2 Screws (451) and disconnect the Lamp Connector while releasing the hook.  
3) Remove the Ballast C.B.A. by releasing the 2 Screws (402).

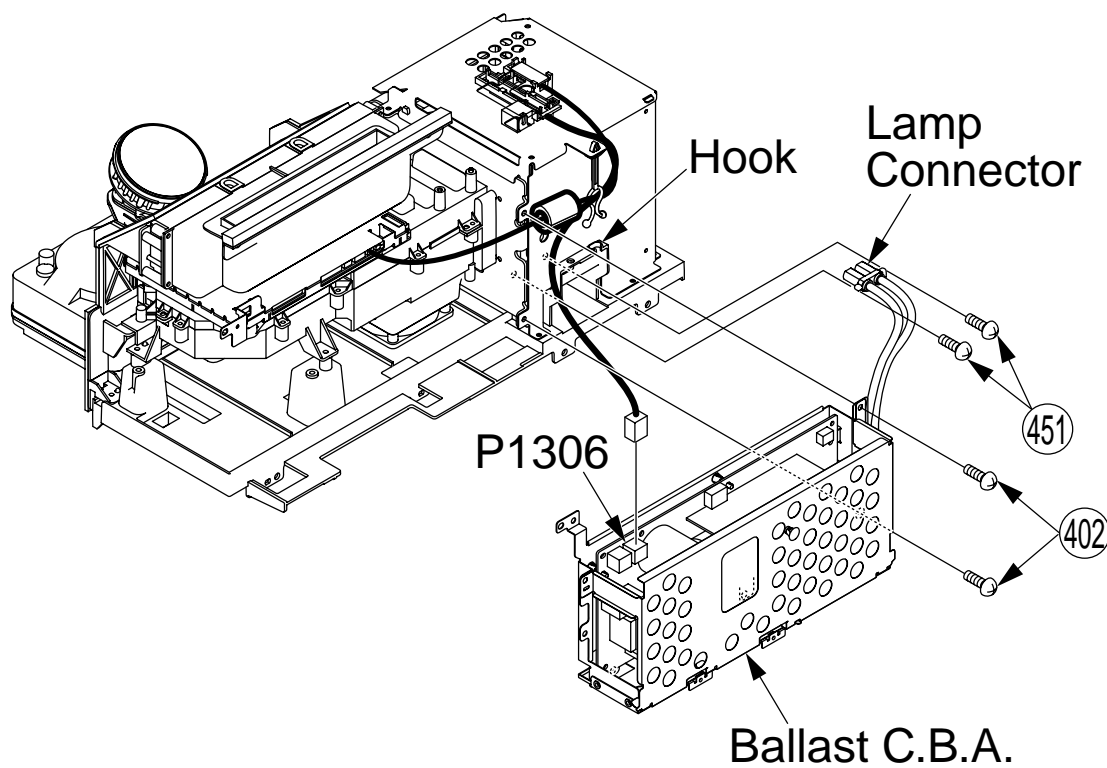


Fig. D1-3

4. 1) Remove the Top Duct 3 Unit by removing the 4 Screws (421).

**CAUTION:**

When removing the Screws (421) on the Top Duct 3 Unit, plastic dust may be produced. Therefore, confirm that there is no dust on the Top Duct 3 Unit. If there is dust, clean the Top Duct 3 Unit with a brush, etc. Otherwise, dust may adhere to the inside of the screen.

- 2) Remove the Lamp from the Projection Unit by loosening the Screw.

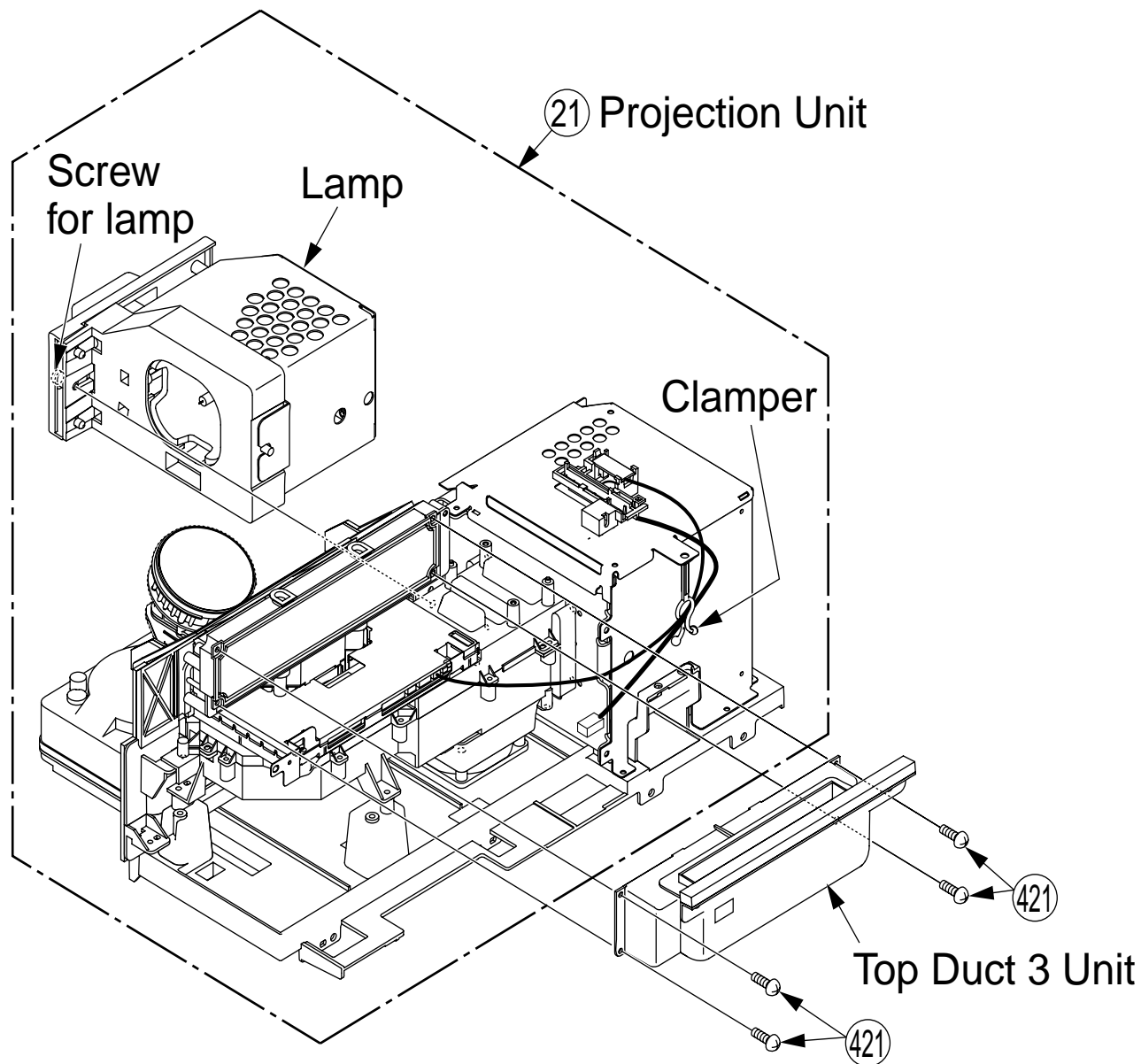


Fig. D1-4

**Note:**

After replacing the Projection Unit, be sure to perform "ADJUSTMENT of Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:."

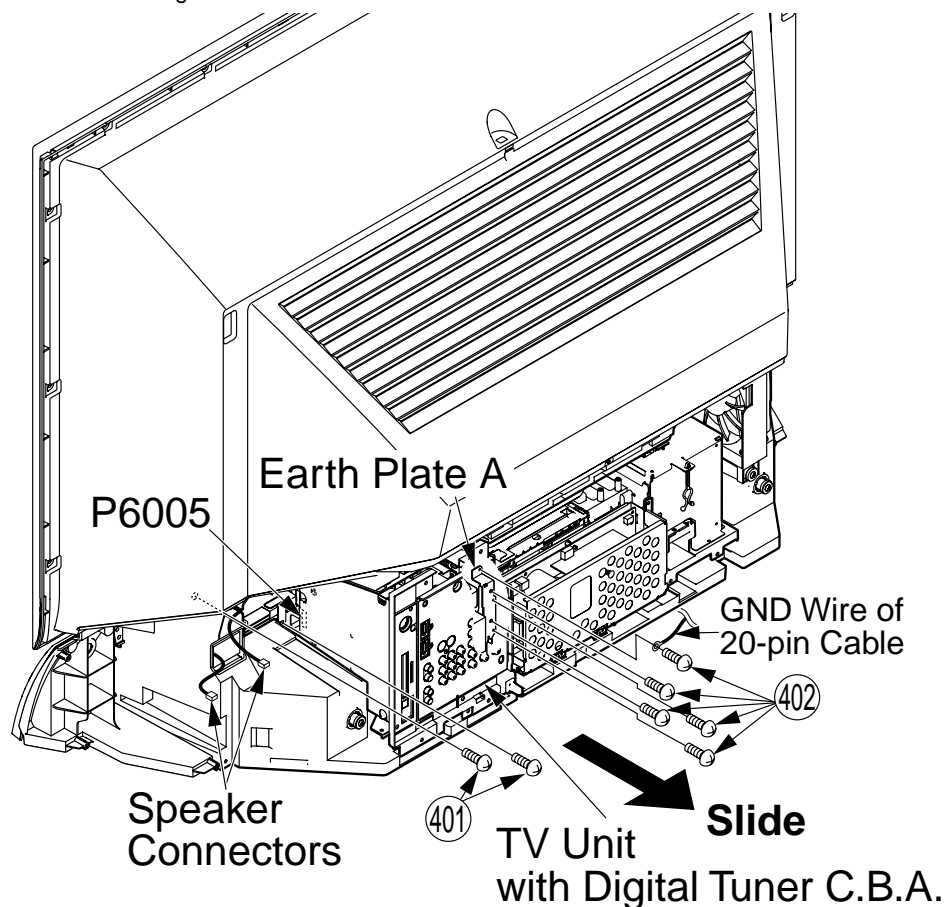
**Replacement Note of Projection Unit:**

These parts will be necessary when replacing. Set aside, and keep and re-use.

- Top Duct 3 Unit

## REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET

1. Remove the Rear Cover. Refer to Step 1 in "REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET."
2. 1) Remove the 2 Screws (401) and the 5 Screws (402) on the Earth Plate A. Then, remove the Earth Plate A.  
2) Disconnect Connector P1301, P1302, P1305, P2501 (20-pin Cable), P2901 and the 2 Speaker Connectors.  
**Note:** Take extreme care not to damage the 20-pin Cable when disconnecting.  
3) Slide the TV Unit with the Digital Tuner C.B.A. slightly, and disconnect Connector P6005.  
4) Remove the TV Unit with the Digital Tuner C.B.A.



The 5 Screws (402) are for removing the Earth Plate A

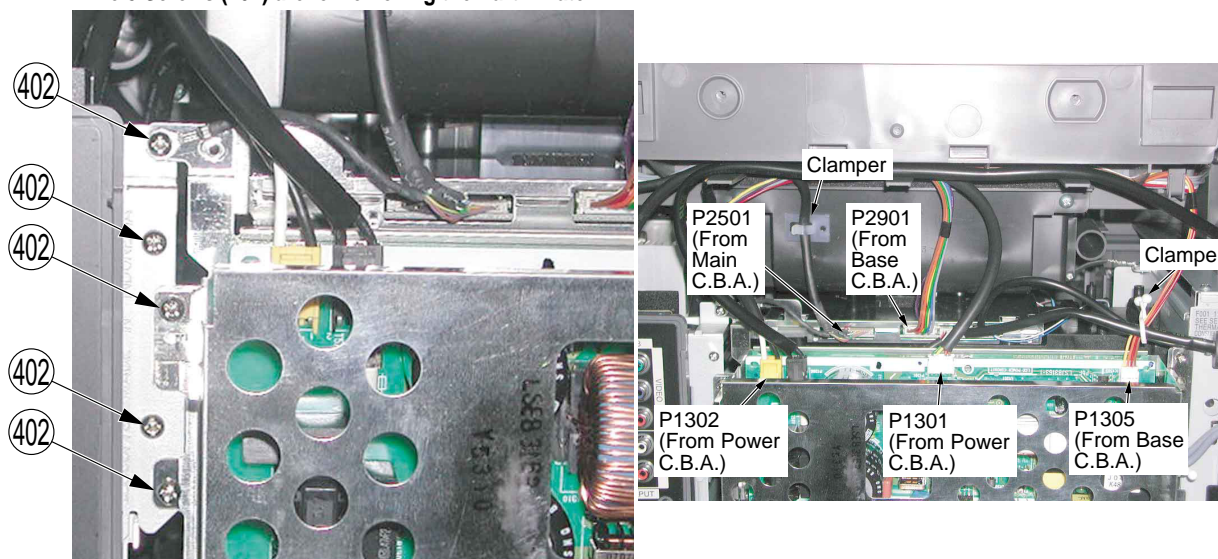


Fig. D2-1

3. 1) Remove the DTV Jack Holder by removing the Screw (402).  
2) Disconnect Connector DT10.  
3) Remove the Digital Tuner C.B.A. by removing the 5 Screws (480). (BtoB Connector DT12 is disconnected.)

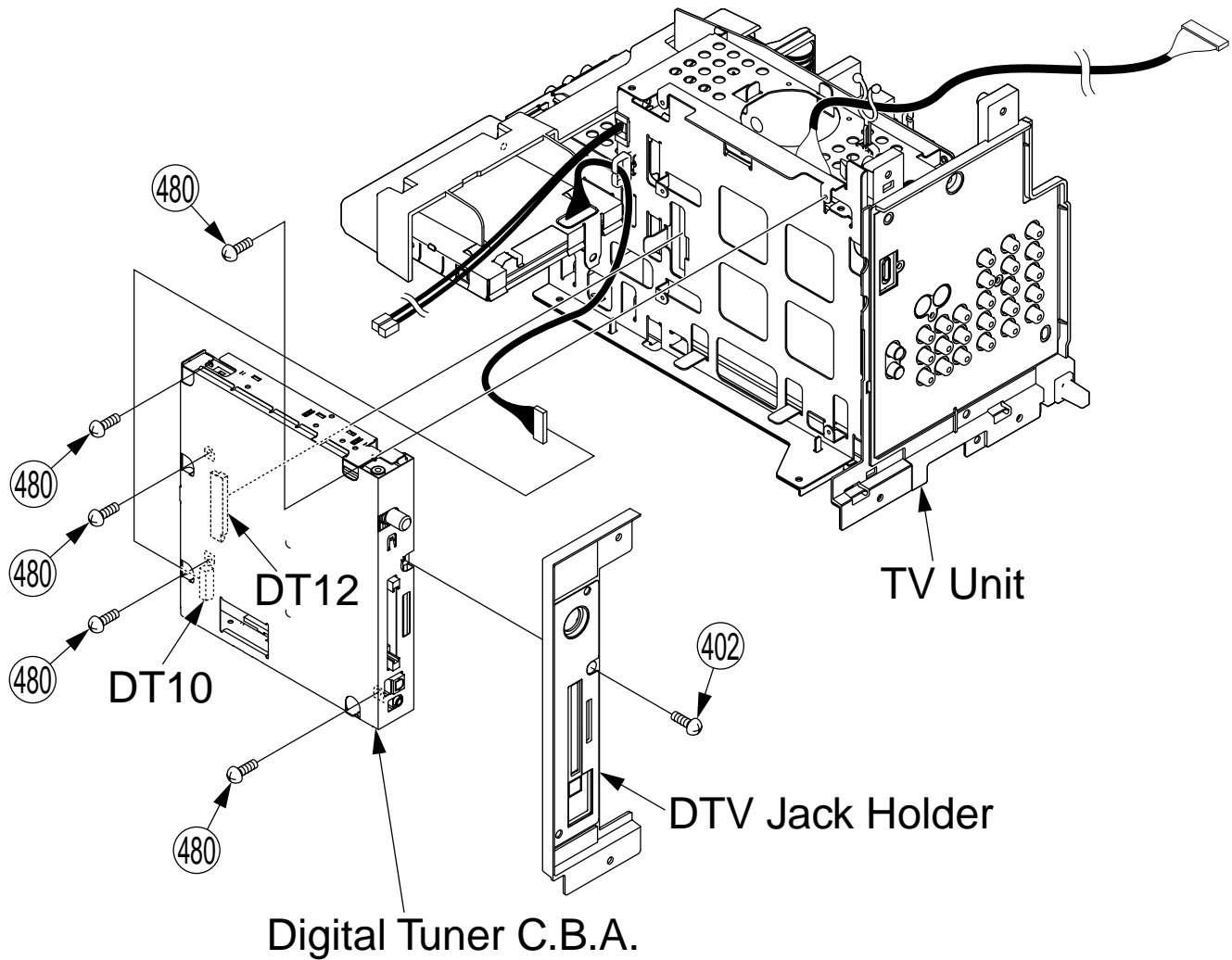


Fig. D2-2



## REMOVAL OF THE BASE BODY UNIT

1. Remove the Rear Cover. Refer to Step 1 in "REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET."
2. Remove the 3 (PT-44/52LCX65-K) or the 5 (PT-61LCX65-K) Screws (401) from rear side, and remove the Display.

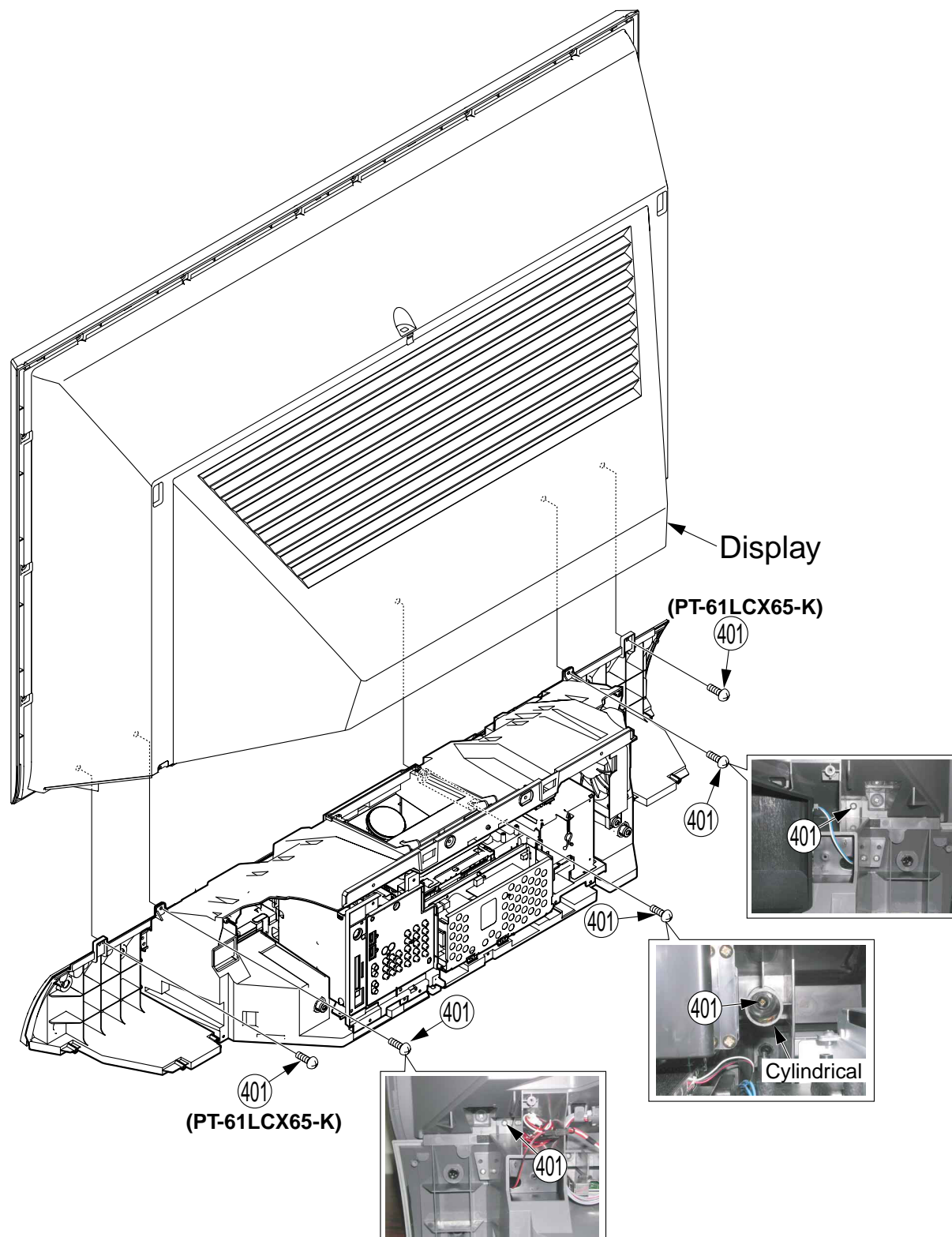


Fig. D3-1

3. 1) Remove the Front Cover Unit from the latches.
- 2) Remove the Side Cover L/R Unit by removing the 6 (or 8: PT-52LCX65-K/PT-61LCX65-K) Screws (401, 454).

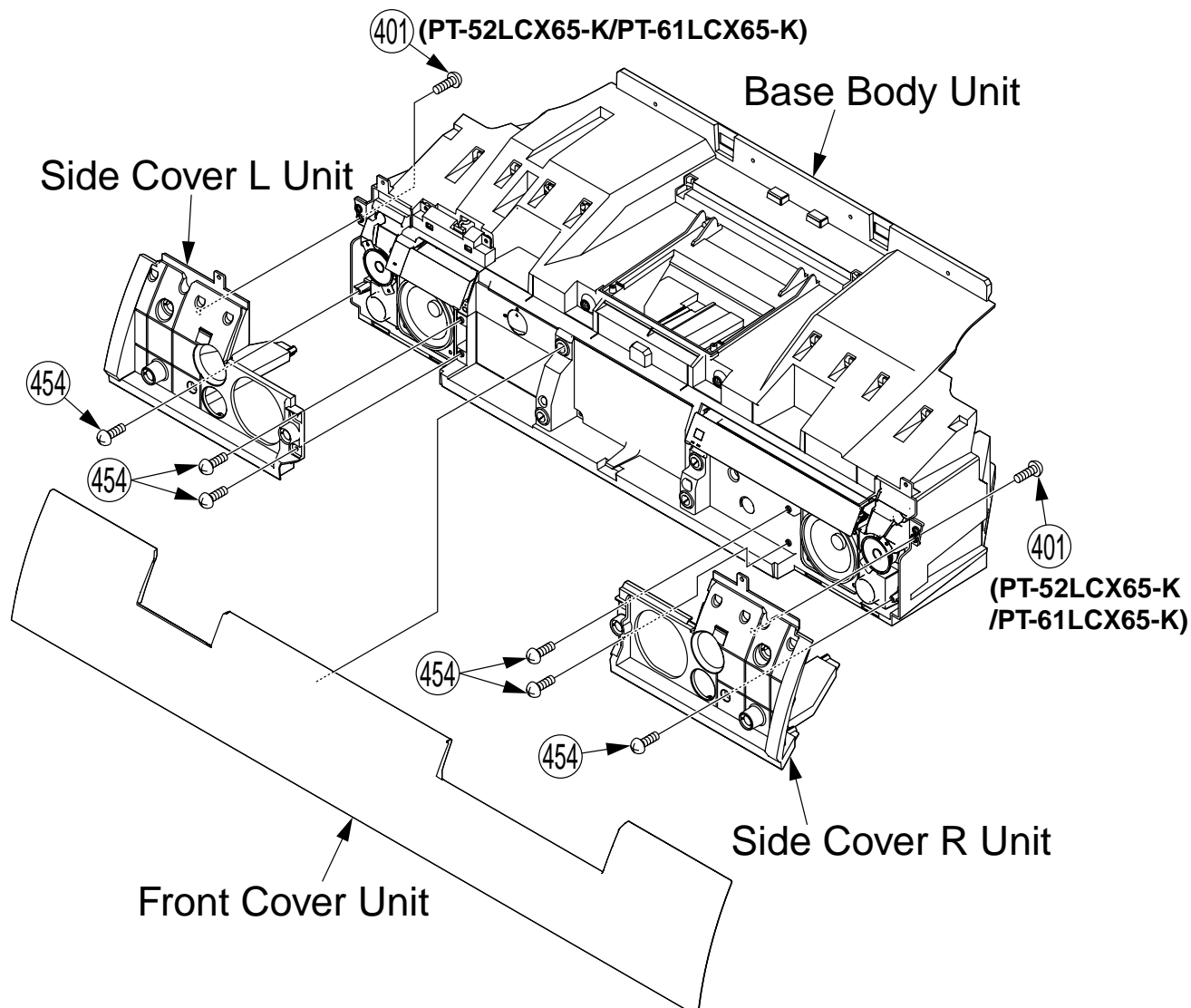


Fig. D3-2

**Note:**

After replacing the Base Body Unit, be sure to perform "ADJUSTMENT of Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:."

## REMOVAL OF THE FRONT JACK C.B.A., THE CARD C.B.A., THE REAR JACK C.B.A., THE POWER C.B.A., THE MAIN C.B.A. AND THE BASE C.B.A. FROM THE TV UNIT

### CAUTION:

**Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):**

LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3).

Then, after installing the new Main C.B.A. or the TV Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.

Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

### Note:

**In case it is impossible to make a note of the CURRENT LAMP value** because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	×	Approx. age (days)	=	CURRENT LAMP (hours)
------------------------------	---	-----------------------	---	-------------------------

1. Remove the TV Unit. Refer to Steps 1~3 in "REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET."
2.
  - 1) Remove the Front Jack Earth Plate by removing the Screw (402).
  - 2) Disconnect Connector P3901, P3902, P3903.
  - 3) Remove the Front Jack C.B.A. by removing the 2 Screws (421).
  - 4) Remove the Front Jack Holder with the Card C.B.A. by removing the Screw (402) then releasing the 2 Locking Tabs.
  - 5) Remove the Card C.B.A. by removing the 2 Screws (421).

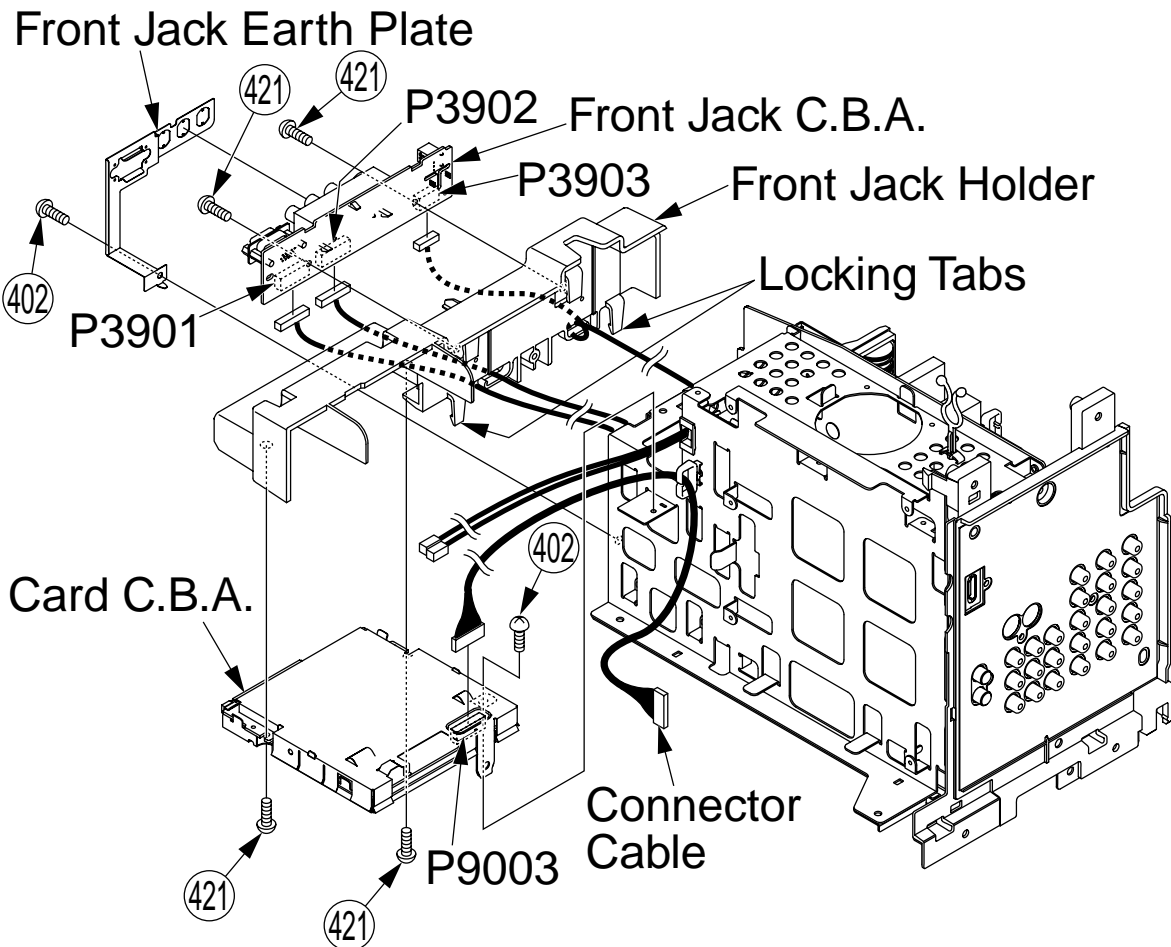


Fig. D4-1

### Replacement Note of Card C.B.A.:

These parts will be necessary when replacing. Set aside, and keep and re-use.

- P9003 Connector Cable

3. 1) Release the AC Cord from the slot of the Rear Jack Holder.
- 2) Remove the Rear Jack Holder by removing the 5 Screws (402) then releasing the 3 Locking Tabs.
- 3) Remove the Screw (402), and pull off the Rear Jack C.B.A. (BtoB Connector P3501 is disconnected.)

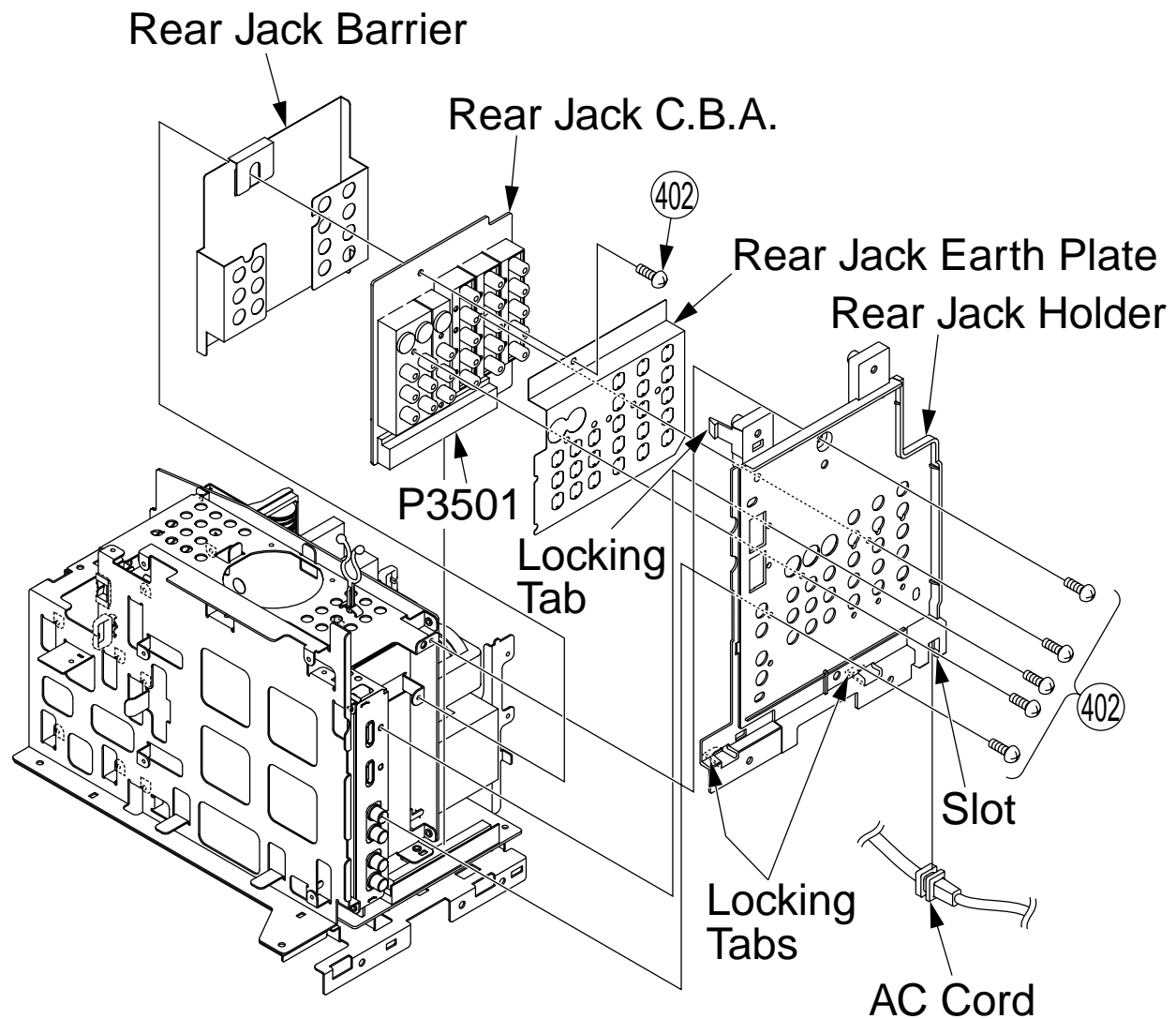


Fig. D4-2

**Replacement Note of Rear Jack C.B.A.:**

These parts will be necessary when replacing. Set aside, and keep and re-use.

- Rear Jack Earth Plate
- Rear Jack Barrier

4. 1) Remove the 5 Screws (402). Then, pull off the Power C.B.A. with the P.C.B. Power Angle while releasing the clamber. (BtoB Connector P1006 is disconnected.)  
 2) Remove the Power C.B.A. by removing the 4 Screws (479).

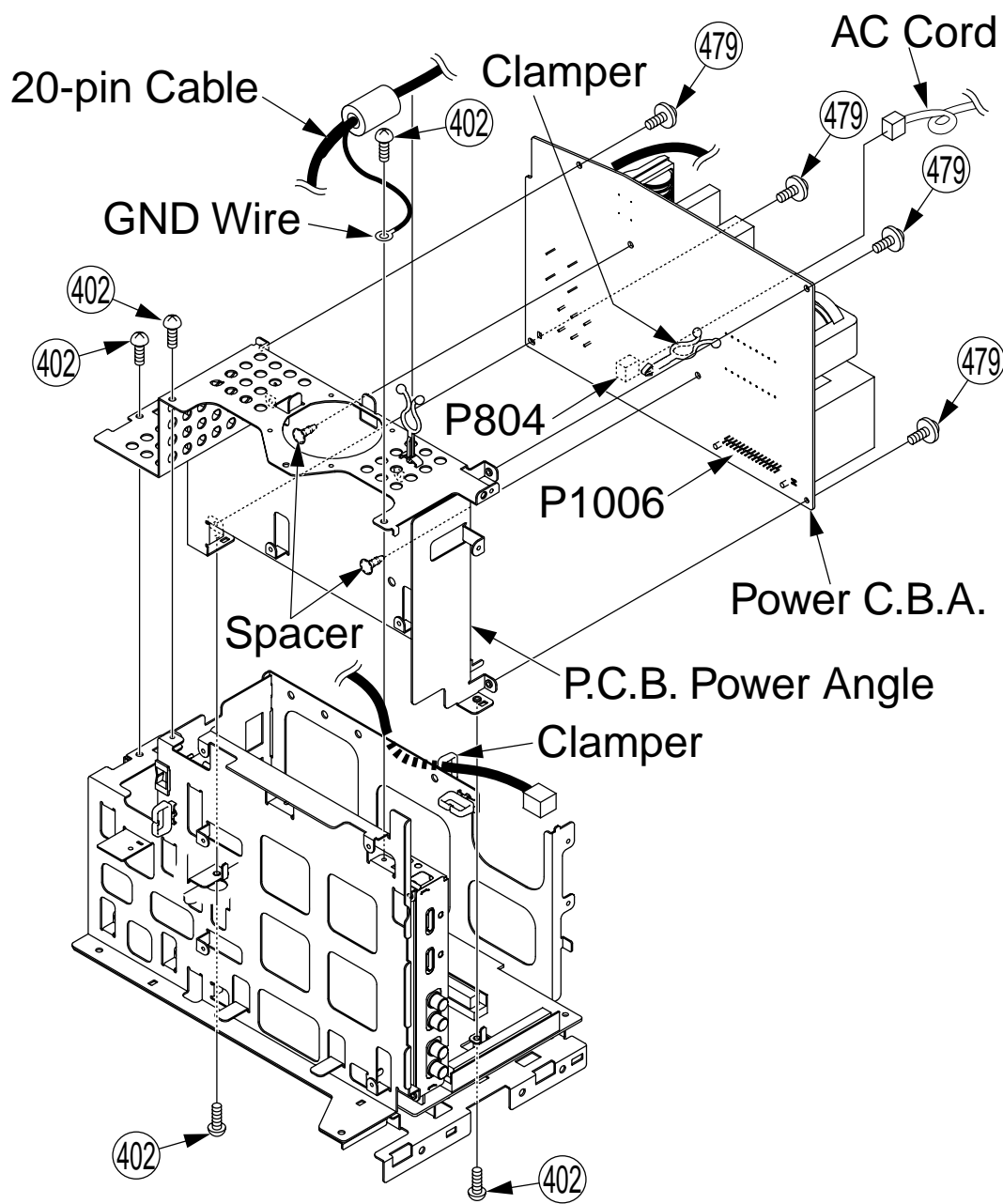


Fig. D4-3

5. 1) Remove the 2 Screws (402). Then, pull off the Main C.B.A. with the P.C.B. Main Angle. (BtoB Connector P3401 is disconnected.)  
2) Remove the Main C.B.A. by removing the 5 Screws (479).

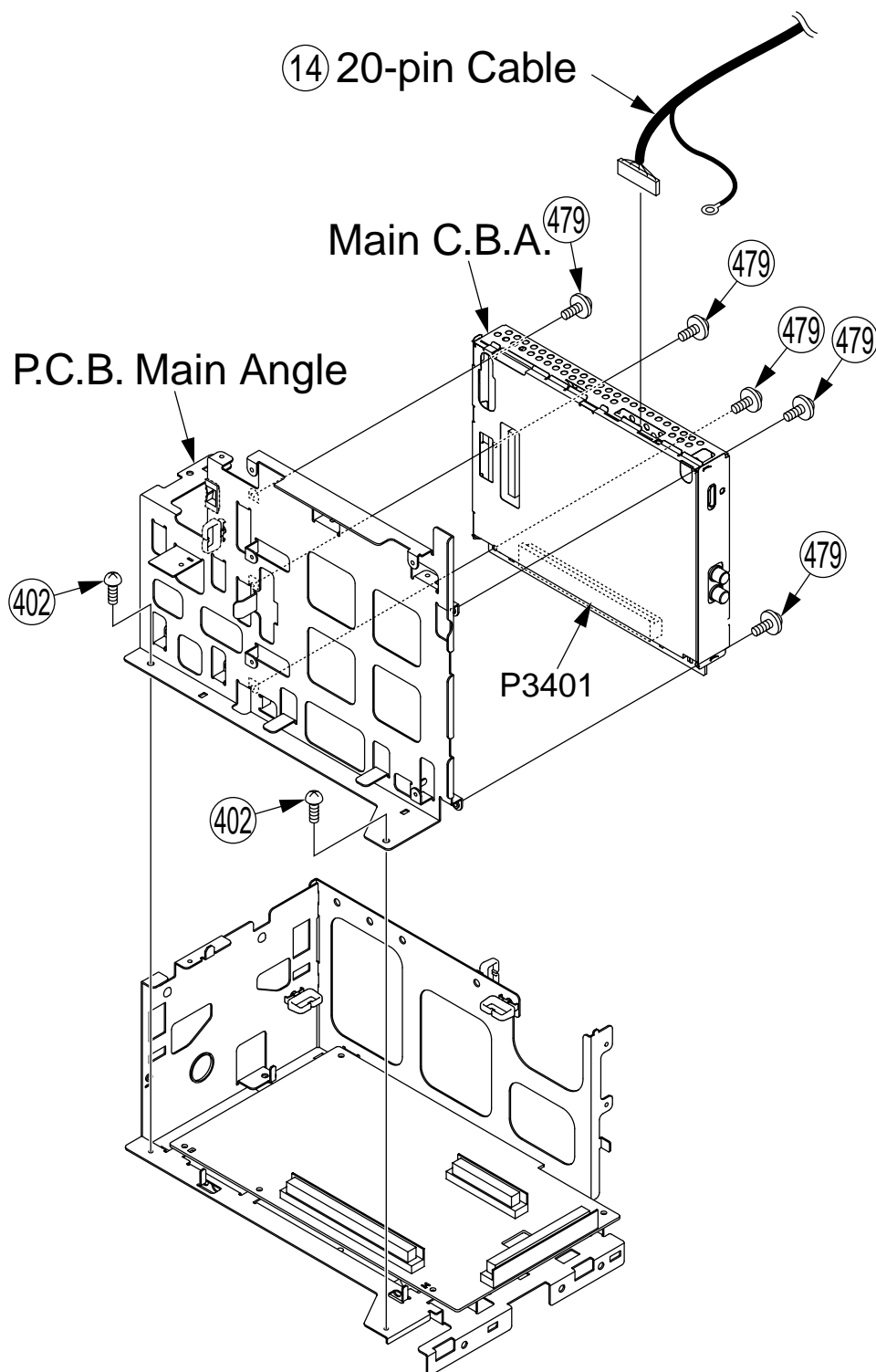


Fig. D4-4

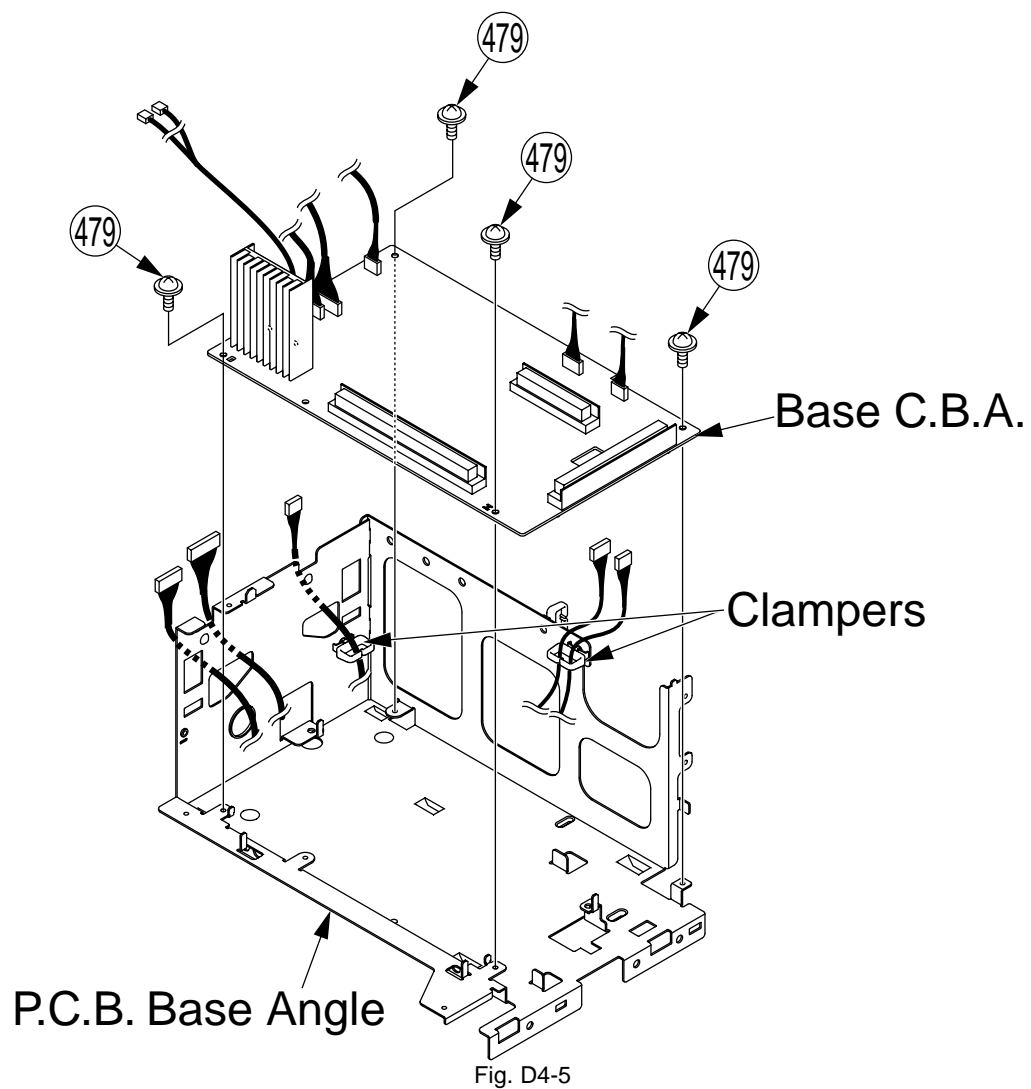
**Replacement Note of Main C.B.A.:**

These parts will be necessary when replacing. Set aside, and keep and re-use.

- 20-pin Cable



6. Remove the Base C.B.A. by removing the 4 Screws (479) then releasing the clampers.



## REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

1. Remove the DISPLAY. Refer to Steps 1~2 in "REMOVAL OF THE BASE BODY UNIT."
2. **(PT-44LCX65-K/PT-52LCX65-K)**  
Remove the Screen Unit by removing the 16 Screws (401).

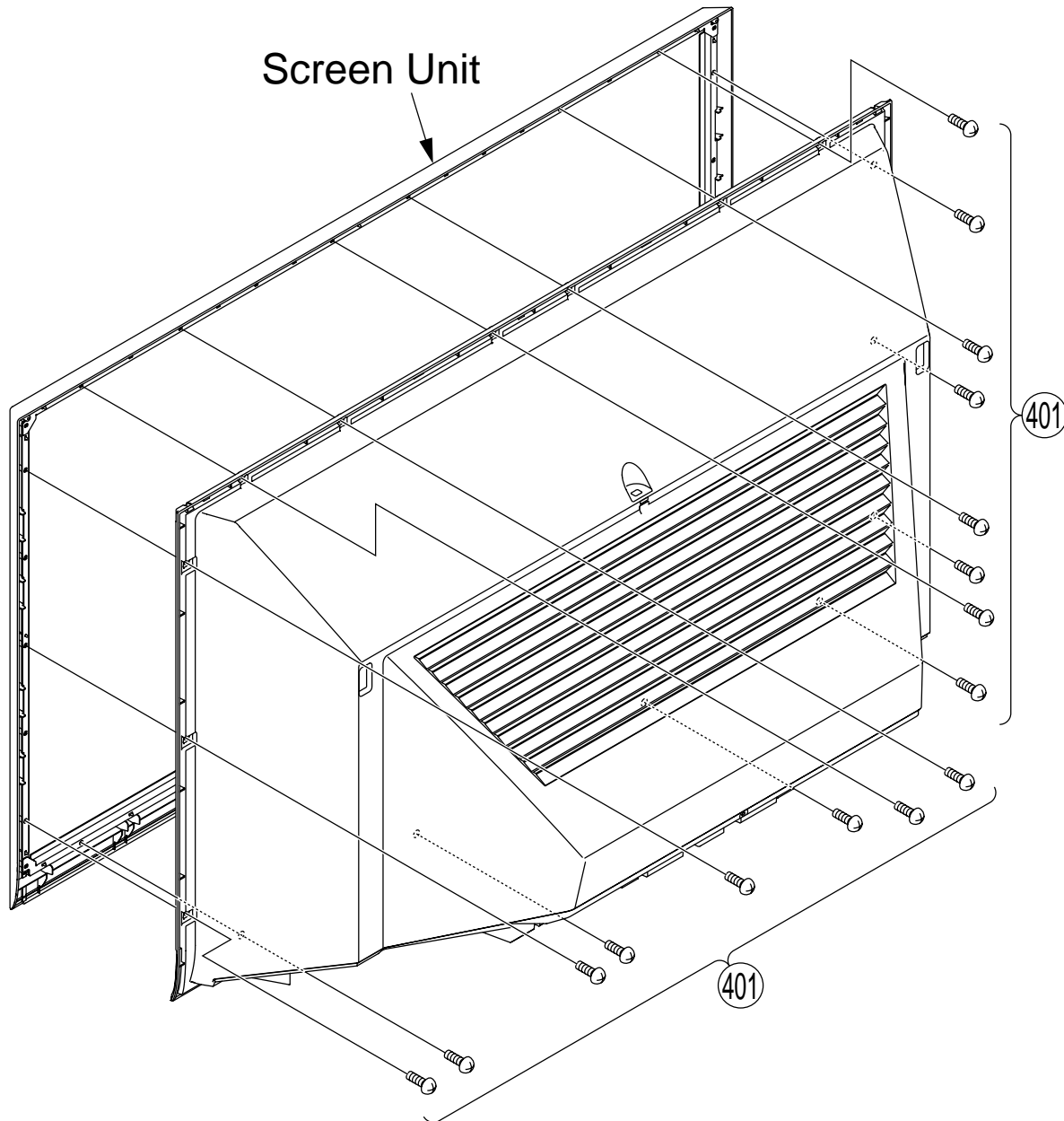


Fig. D5-2-1

**(PT-61LCX65-K)**

Remove the Screen Unit by removing the 17 Screws (401).

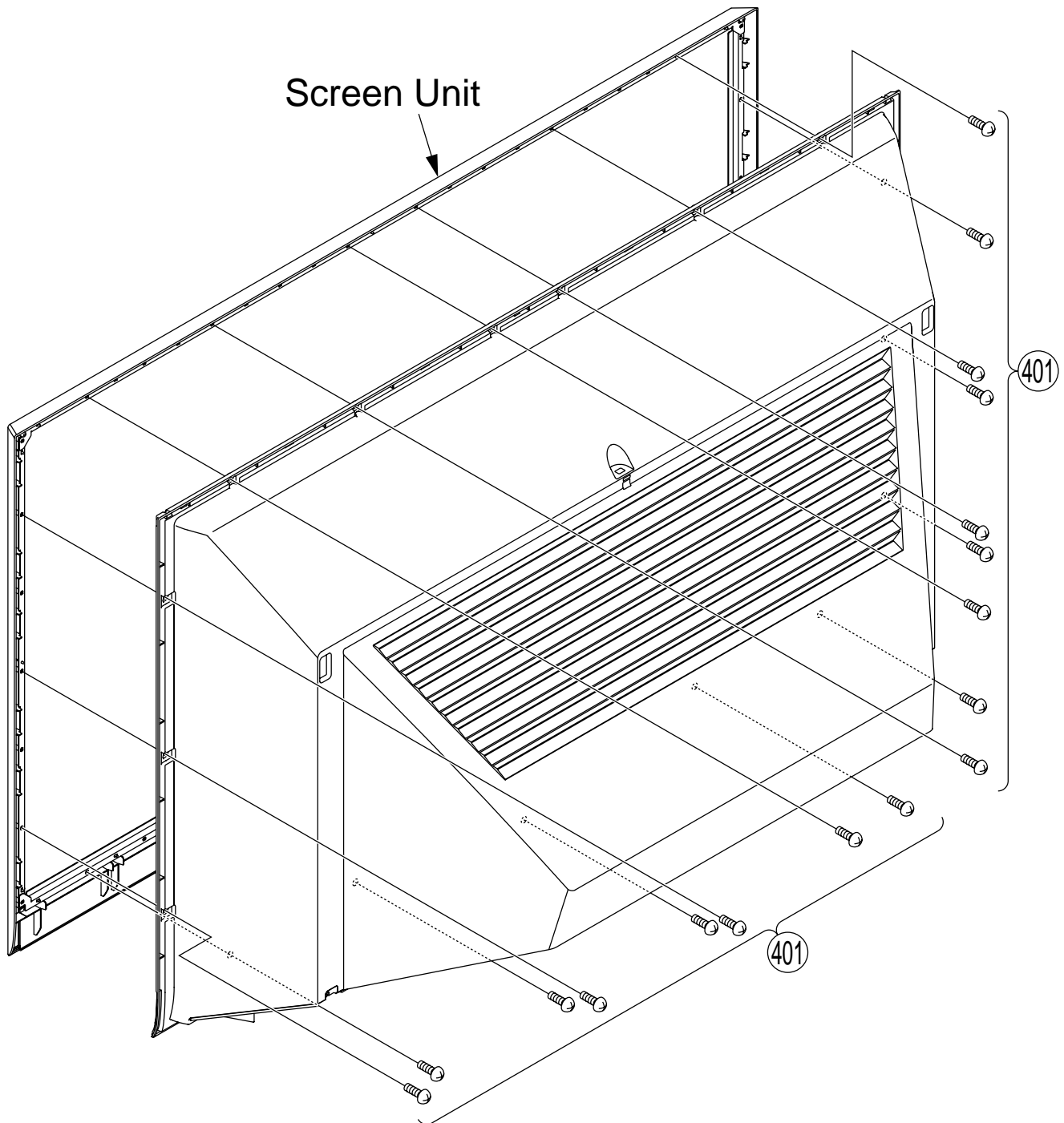


Fig. D5-2-2

3. (PT-44LCX65-K/PT-52LCX65-K)

Remove the 2 Screen Angle H Unit and the 2 Screen Angle V Unit by removing the 14 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

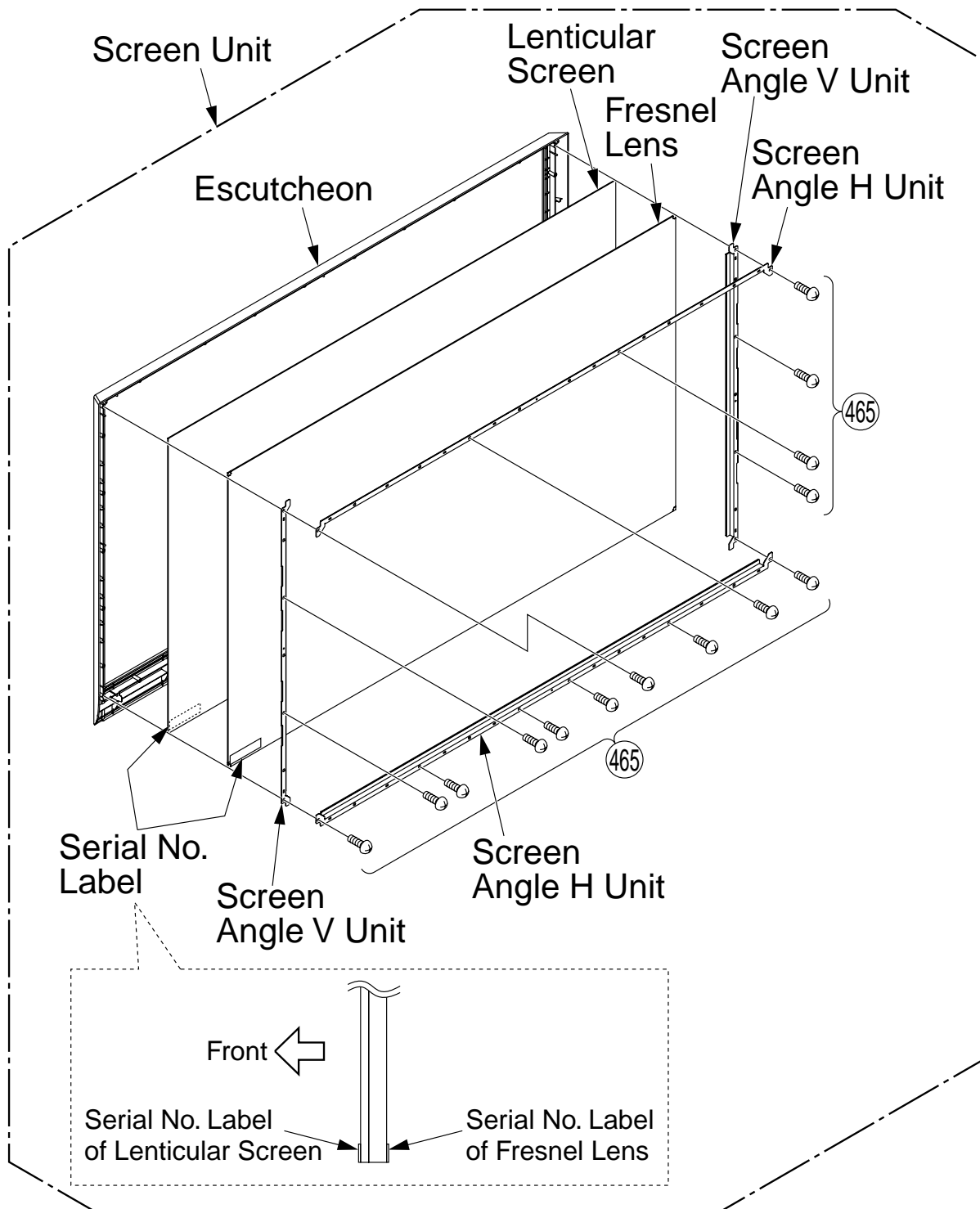


Fig. D5-3-1

**Reassembly Note:**

Install them so that Serial No. Labels are on the each outside as shown above.

**Replacement Note for Screen Unit:**

The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

**(PT-61LCX65-K)**

Remove the 2 Screen Angle H Unit and the 2 Screen Angle V Unit by removing the 18 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

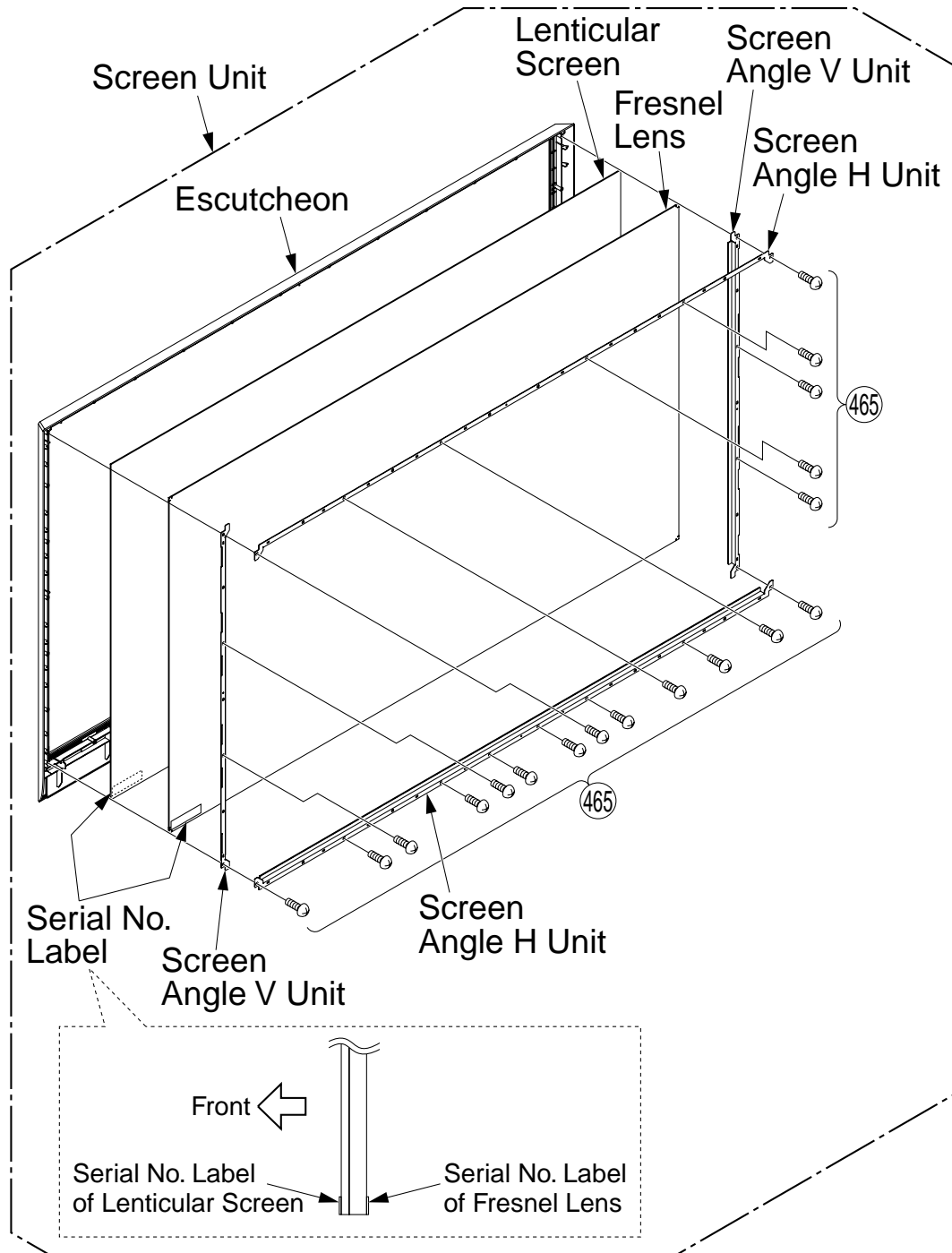


Fig. D5-3-2

### Reassembly Note:

Install them so that Serial No. Labels are on the each outside as shown above.

**Replacement Note for Screen Unit:**

The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

## REMOVAL OF THE MIRROR FROM THE BACK COVER

1. Remove the Screen Unit. Refer to Steps 1~4 in "REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY."
  2. **(PT-44LCX65-K/PT-52LCX65-K)**
    - 1) Remove the 2 Mirror Holder H and the 2 Mirror Holder V Unit **(PT-52LCX65-K)** by removing the 4 (or 8: **PT-52LCX65-K**) Screws (401).
    - 2) Remove the Mirror from the top by releasing the Back Cover slots.
- Note:** Be careful that the Mirror does not fall down when removing.

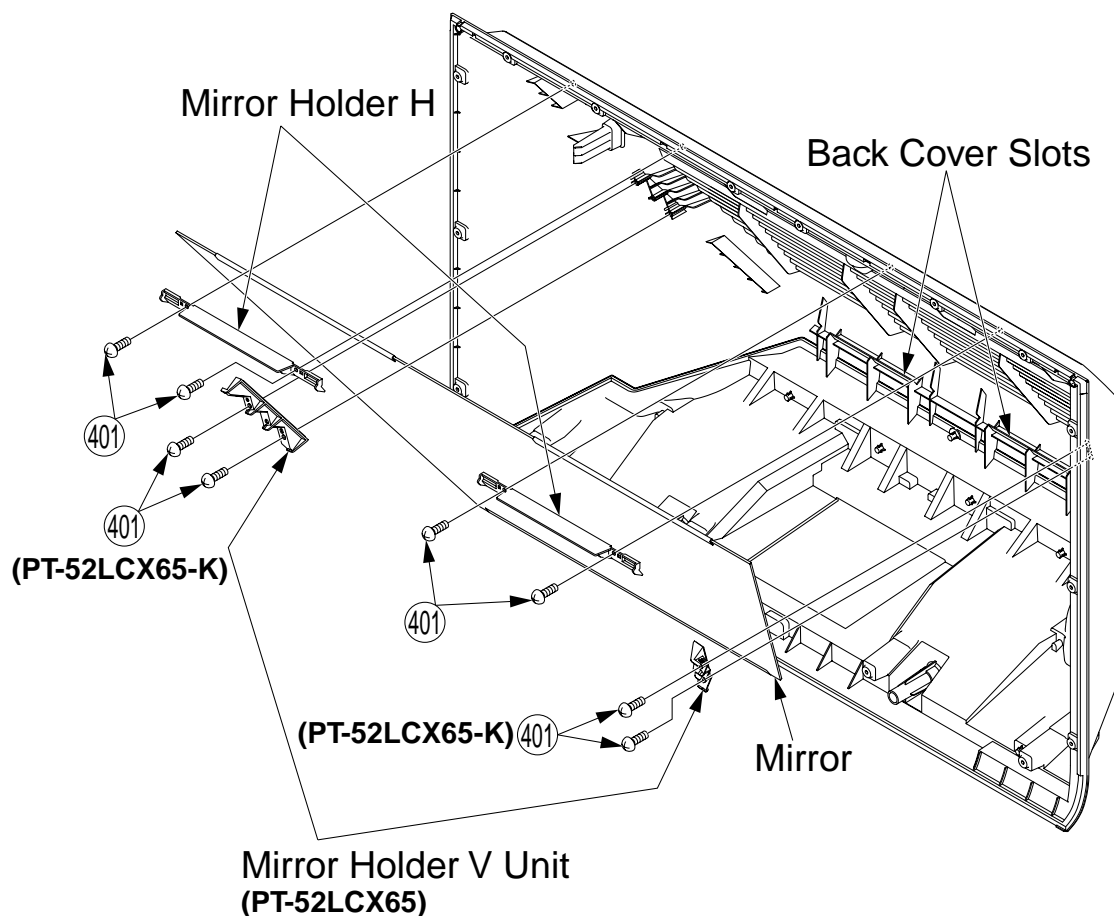
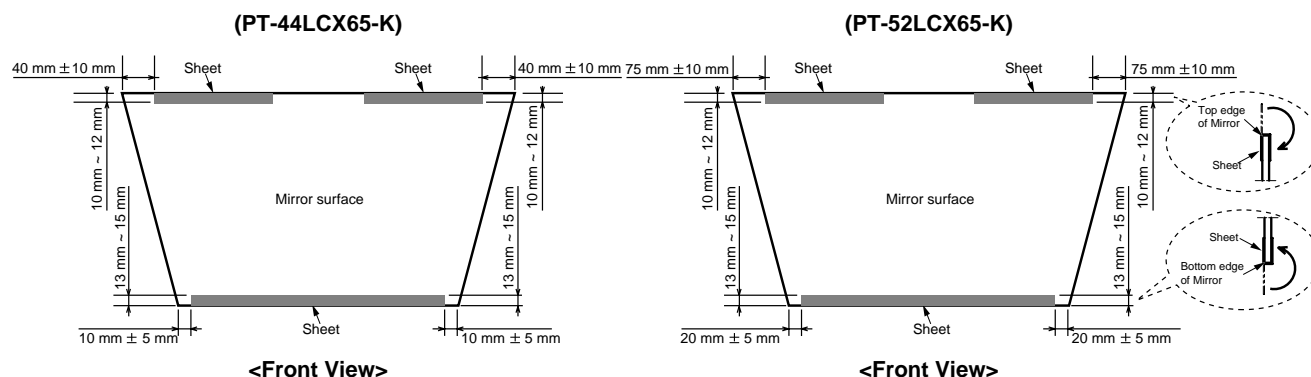


Fig. D6-1-1

### Reassembly Notes for Mirror:

#### Install the Mirror as following procedures:

- 1) Place the 3 sheets on the top and bottom edges of the Mirror.



- 2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
- 3) Install the 2 Mirror Holder H and the 2 Mirror Holder V Unit **(PT-52LCX65-K)** on the Mirror and tighten the 4 (or 8: **PT-52LCX65-K**) Screws (401).



**(PT-61LCX65-K)**

- 1) Remove the 3 Mirror Holder H and the 2 Mirror Holder V Unit by removing the 10 Screws (401).
- 2) Remove the Mirror from the top by releasing the Back Cover slots.

**Note:** Be careful that the Mirror does not fall down when removing.

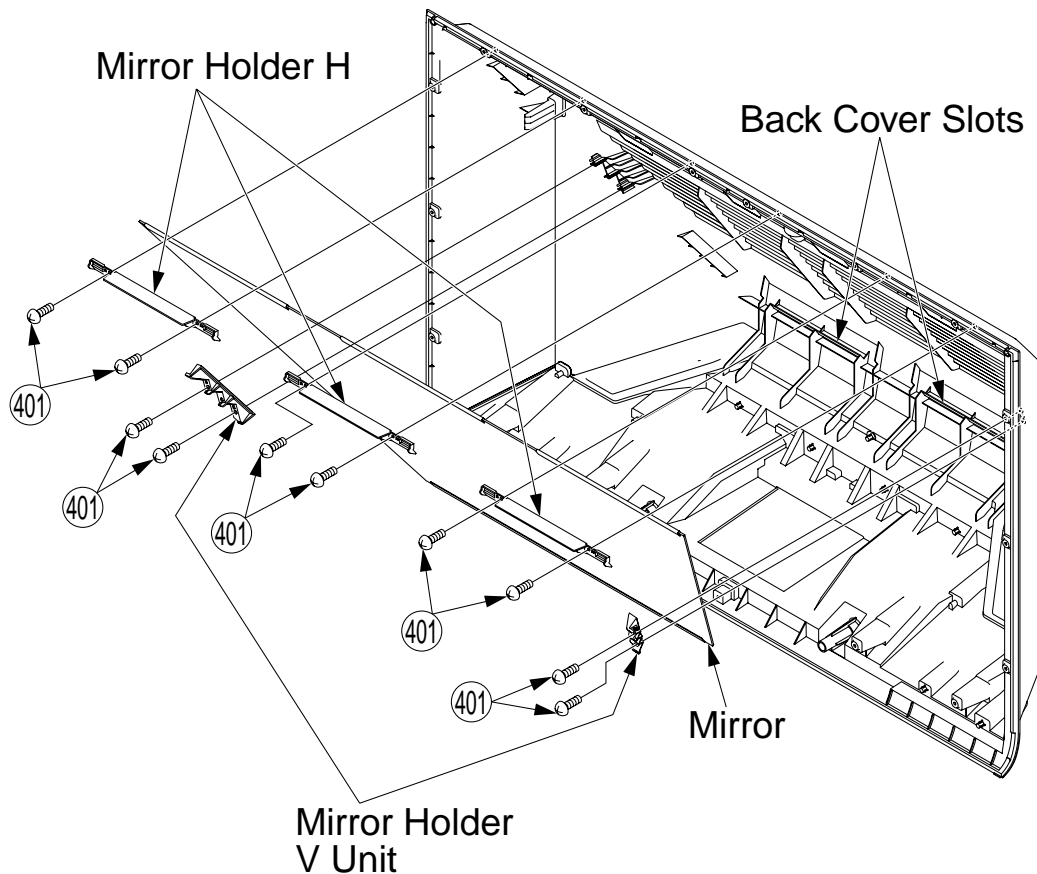
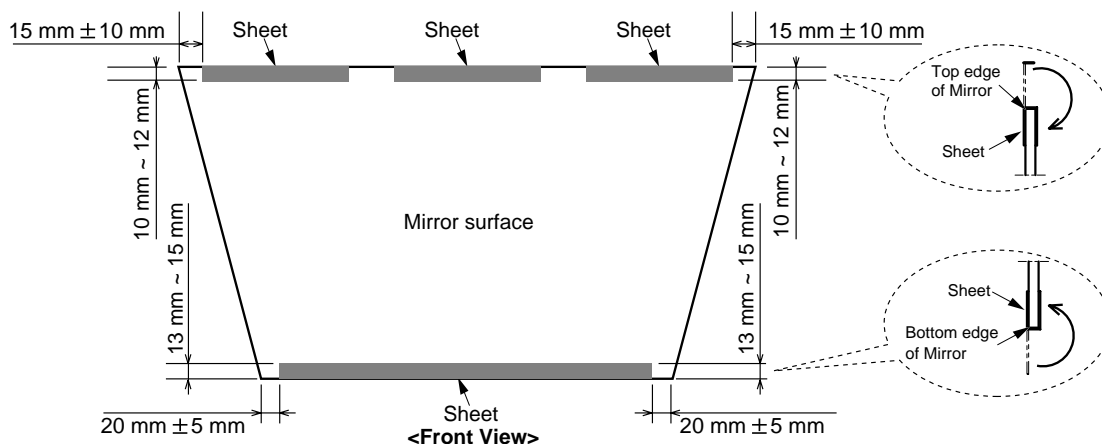


Fig. D6-1-2

**Reassembly Notes for Mirror:****Install the Mirror as following procedures:**

- 1) Place the 4 sheets on the top and bottom edges of the Mirror.



- 2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
- 3) Install the 3 Mirror Holder H and the 2 Mirror Holder V Unit on the Mirror and tighten the 10 Screws (401).

## REMOVAL OF THE OPERATION C.B.A. FROM THE CABINET

1. Remove the Display and the Front Cover Unit. Refer to Step 1 ~ 2 in "REMOVAL OF THE BASE BODY UNIT."
2. 1) Disconnect Connector P6701.  
2) Remove the Operation Holder Unit with the Operation C.B.A. by removing the 2 Screws (401).  
3) Remove the Operation C.B.A. by removing the 2 Screws (421).

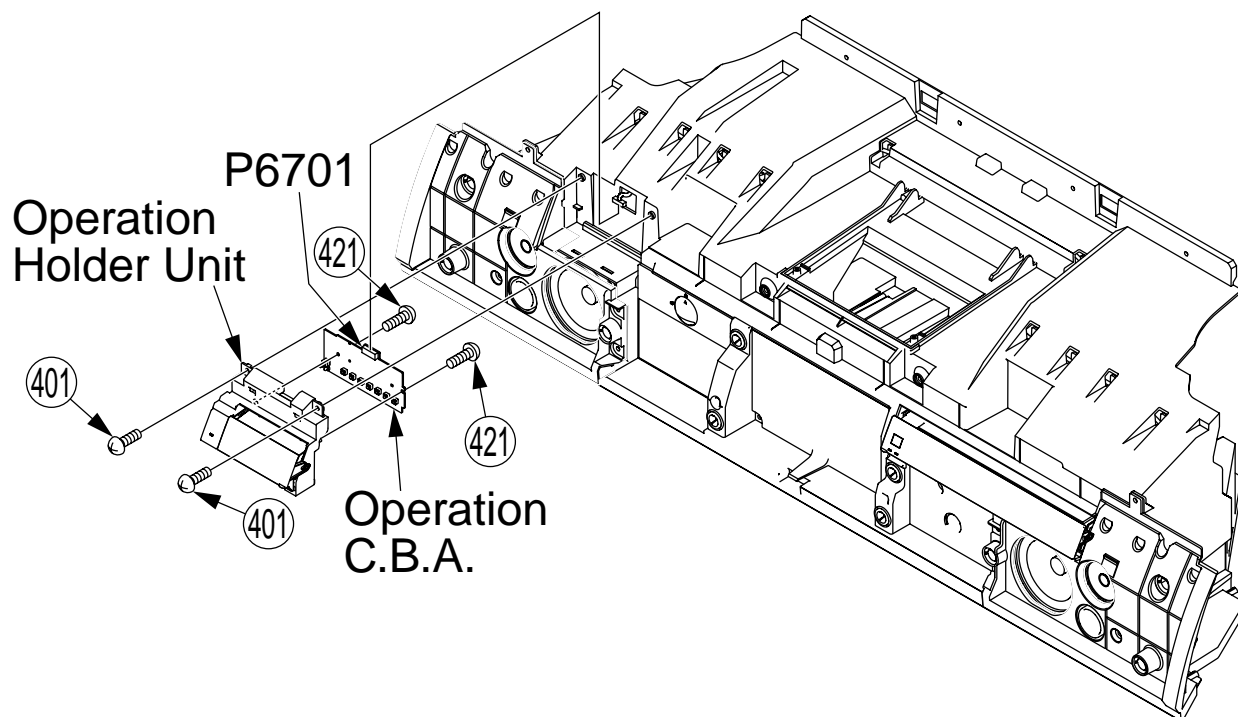


Fig. D7

## REMOVAL OF THE BALLAST SHIELD CASE TOP AND THE BALLAST SHIELD CASE BOTTOM

1. Remove the Ballast C.B.A. Refer to Steps 1~3 in "REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET."
2. 1) Remove the Ballast Shield Case Top by removing the Screw (452).  
2) Remove the Ballast Shield Case Bottom by removing the 2 Screws (411), and releasing the 3 Spacers.

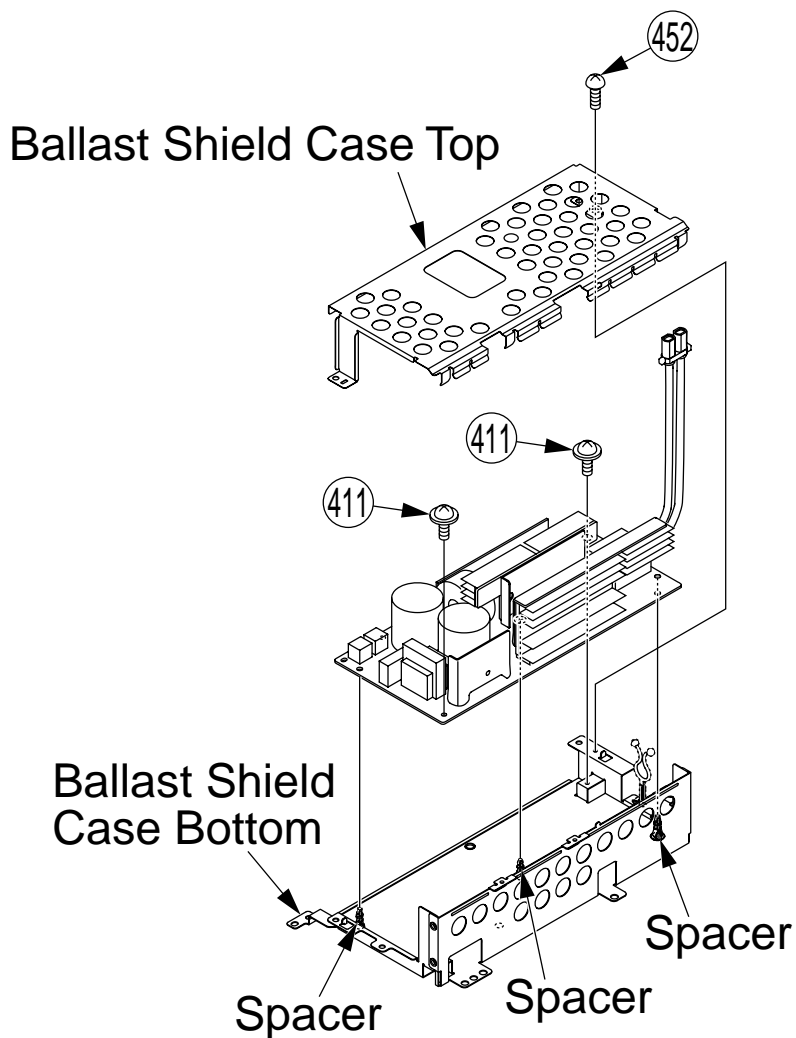


Fig. D8

## 6.2. PROJECTION SECTION

### PROJECTION SECTION

#### DISASSEMBLY METHOD OF PROJECTION UNIT

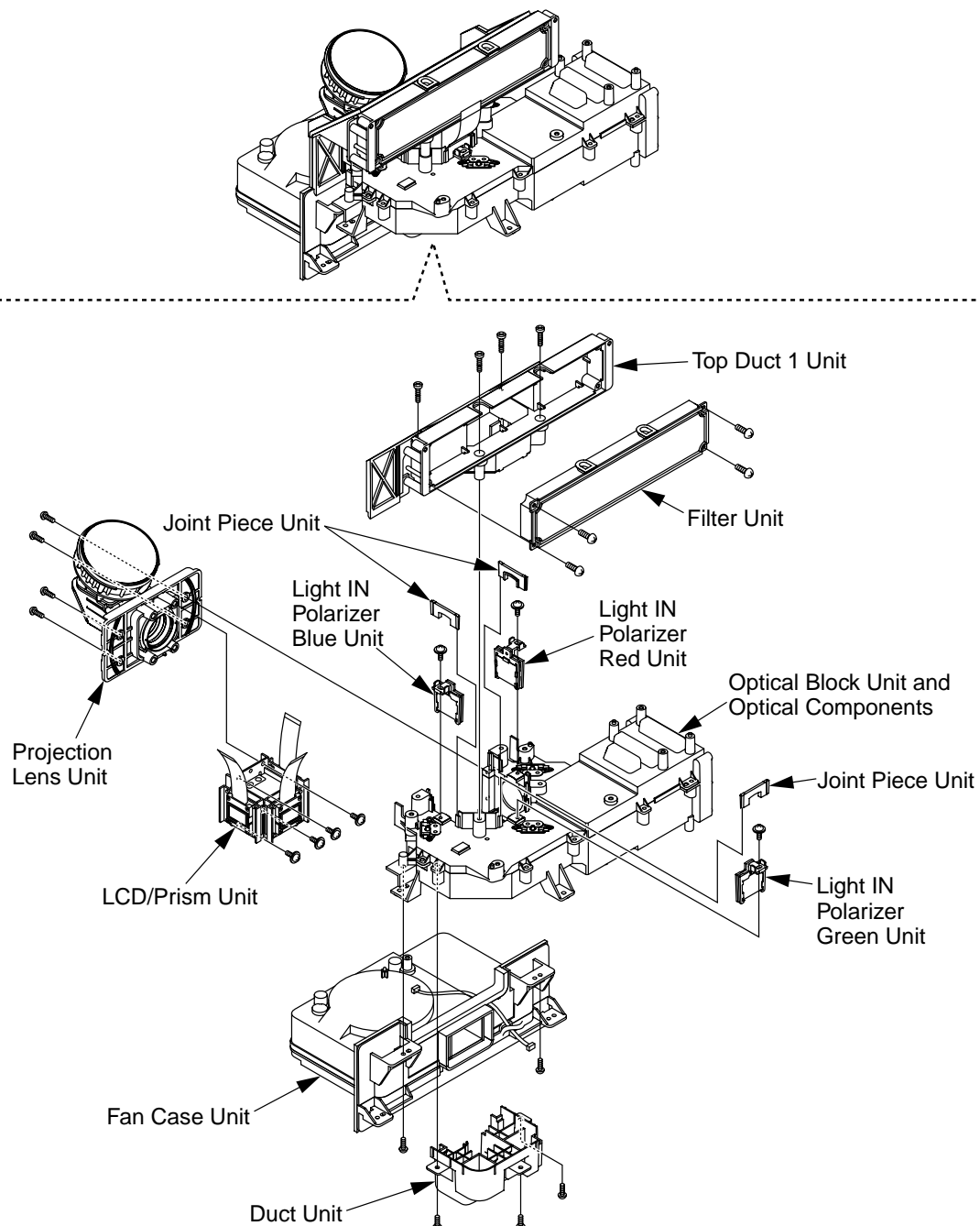
When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.

**Note :**

- Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
- When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
- Do not supply power to the unit during disassembly and reassembly.

**Note:**

When servicing these inner parts (LCD/Prism Unit, Light IN Polarizer Unit, etc.) of the Projection Unit, it is strongly recommended to replace at clean room or clean bench.



## REMOVAL OF THE LCD DRIVE C.B.A.

1. Peel the Seal Tape 4.

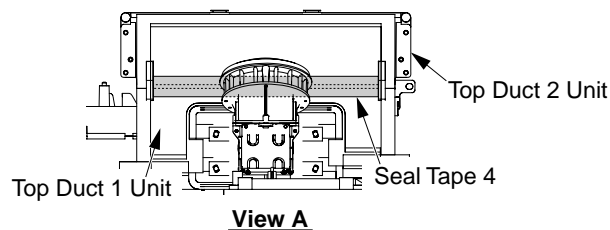


Fig. P1-1

2. Remove the Top Duct 2 Unit by removing the 4 Screws (421).
3. Remove the Filter Unit by removing the 4 Screws (421).  
**Note:** Do not touch the Air Filter.
4. Remove the Top Duct 1 Unit by removing the 4 Screws (475).
5. 1) Disconnect Connector P2302, P2303, P2902, P2903, P2502.  
2) Disconnect Connectors P2001, P2002, P2003 (LCD Panel Flexible Cable).  
**Note:** Take extreme care not to damage the LCD Panel Flexible Cable.
6. Remove the LCD Drive C.B.A. and the GND Wire by removing the 4 Screws (421).
7. Remove the LCD Drive Shield Case Top and the LCD Drive Shield Case Bottom.

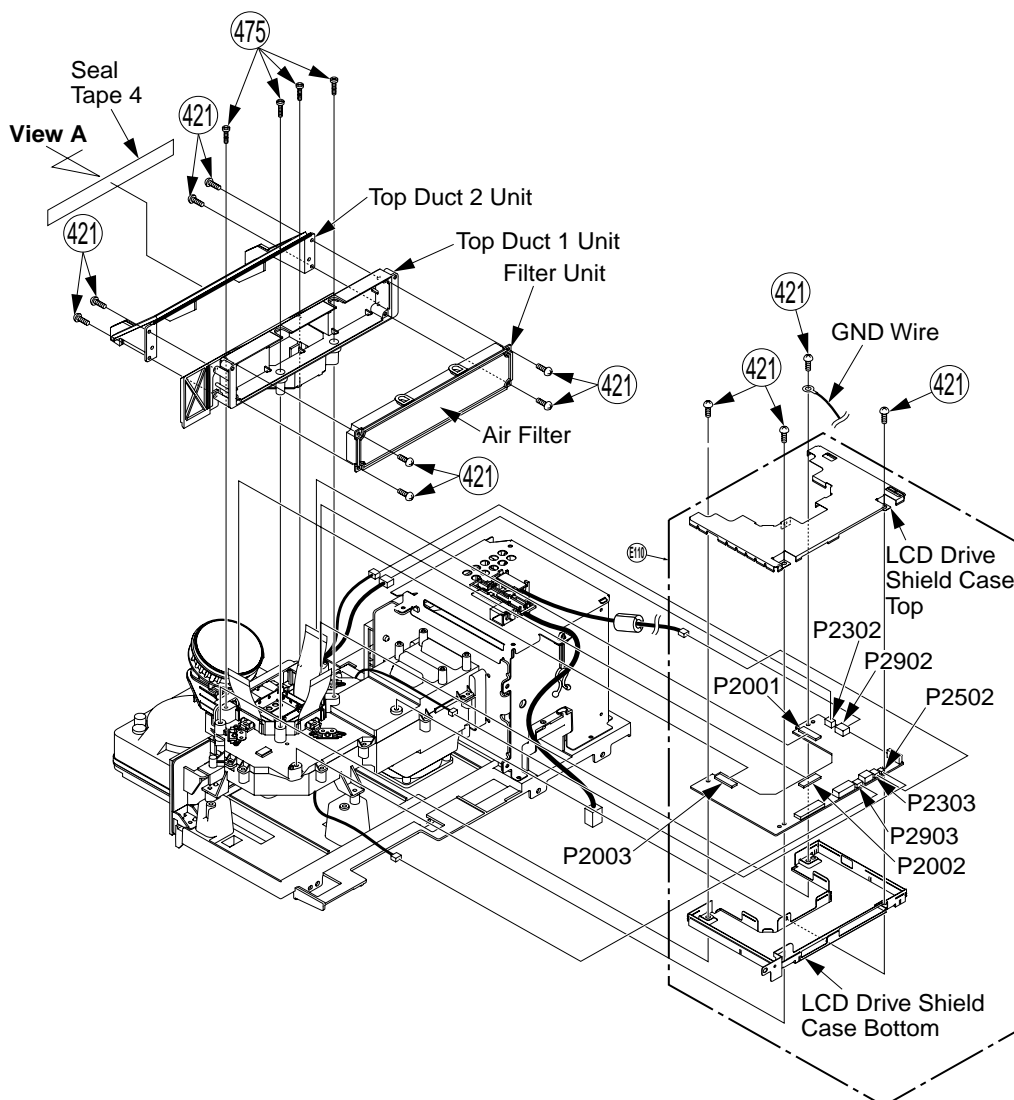


Fig. P1-2

## REMOVAL OF THE LIGHT IN POLARIZER UNITS

1. Remove the LCD Drive C.B.A. Refer to Steps 1~7 in "REMOVAL OF THE LCD DRIVE C.B.A."
2. Remove the 3 Joint Piece Units.
3. Remove the Light IN Polarizer Red, Green, Blue Unit by removing the 3 Screws (423).

**Note:**

1. Use extreme caution not to damage the Light IN Polarizer Units (Red, Green, Blue), when servicing.
2. Clean the Polarizer Unit if necessary. Refer to "CLEANING METHOD" in SERVICE NOTES.

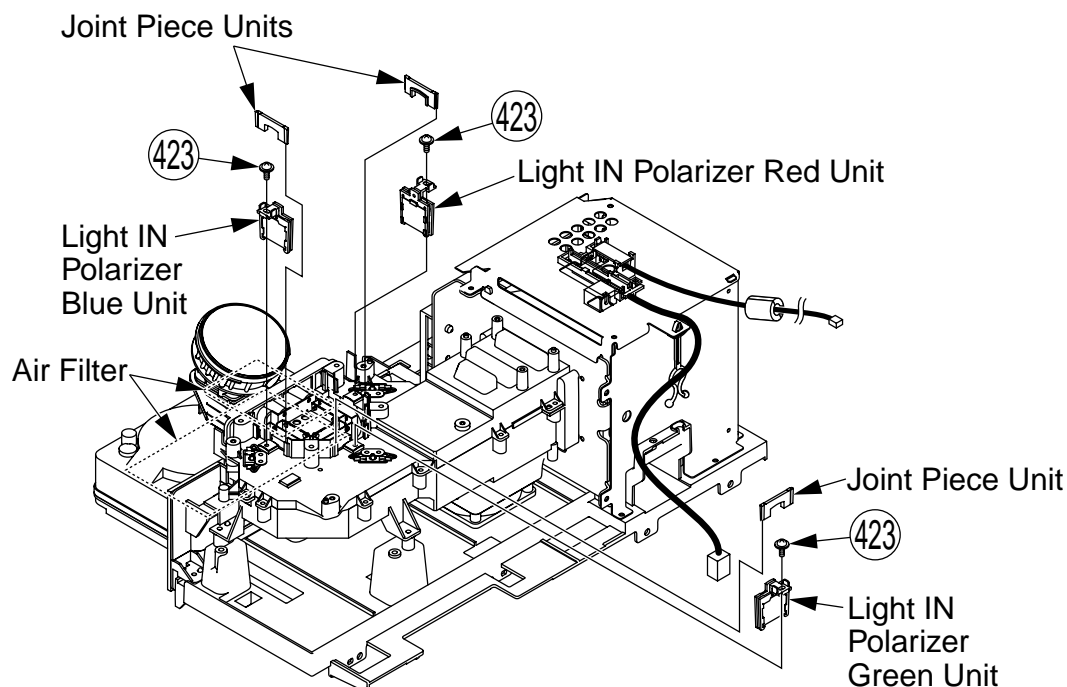


Fig. P2-1

**Reassembly Note for the Light IN Polarizer Unit (Red, Green, Blue):**

- 1) After replacing the Light IN Polarizer Units, be sure to perform Polarizer Adjustment.
- 2) Make sure of the mark color to distinguish the Light IN Polarizer Units ( Polarizer ).  
 Light IN Polarizer Red Unit has a Plate (Polarizer).  
 Light IN Polarizer Green Unit has 2 Plates (Polarizer and ND Filter).  
 Light IN Polarizer Blue Unit has 2 Plates (Polarizer and UV Cut Filter)

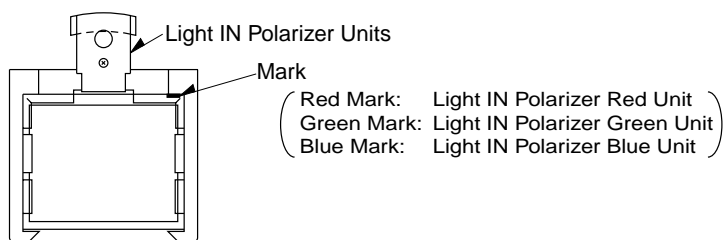


Fig. P2-2



## REMOVAL OF THE LCD/PRISM UNIT, PROJECTION LENS UNIT, FAN CASE UNIT (FAN 1), FAN 2

1. Remove the LCD Drive C.B.A. Refer to Steps 1~7 in "REMOVAL OF THE LCD DRIVE C.B.A."
2. Remove the Engine Frame by removing the 8 Screws (421).

**Note:** After removing the Engine Frame, the Fan 2 can be removed.

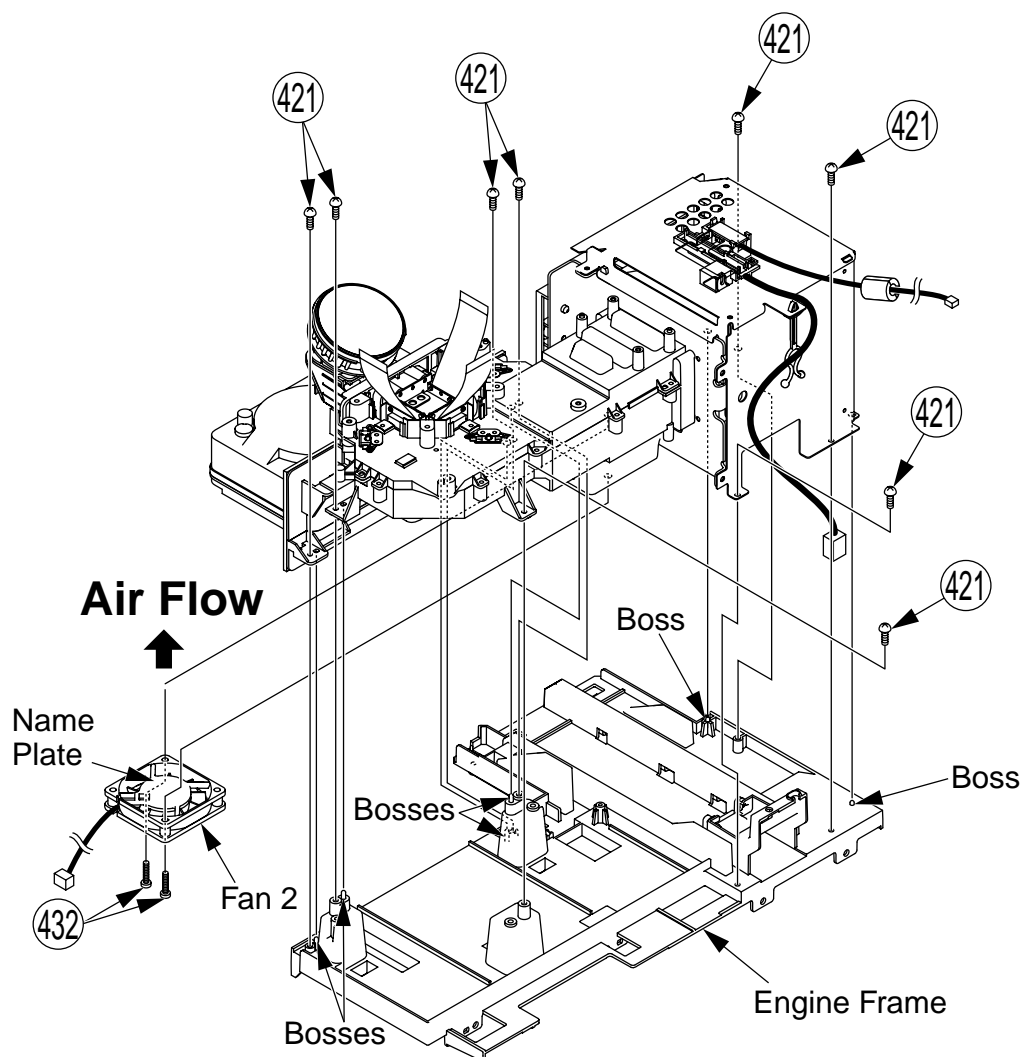


Fig. P3-1

### Reassembly Note for Fan 2:

Install the Fan 2 with the 2 Screws (432) so that the name plate (manufacture's name etc.) face in (not visible from the outside).

3. Remove the Duct Unit by removing the 3 Screws (421).

**Note:**

The Joint Piece Unit may be come off when placing down the Optical Block Unit.

4. Remove the Fan Case Unit by removing the 2 Screws (421).

**Note:**

Do not touch the Air Filter.

5. Remove both the Projection Lens Unit and the LCD/Prism Unit by removing the 4 Screws (434).

**Note:**

1. Use extreme caution when handling the LCD/Prism Unit to avoid damage, dust, spots (especially fingerprints), etc.
2. Clean the LCD/Prism Unit if necessary. Refer to "CLEANING METHOD" in SERVICE NOTES.

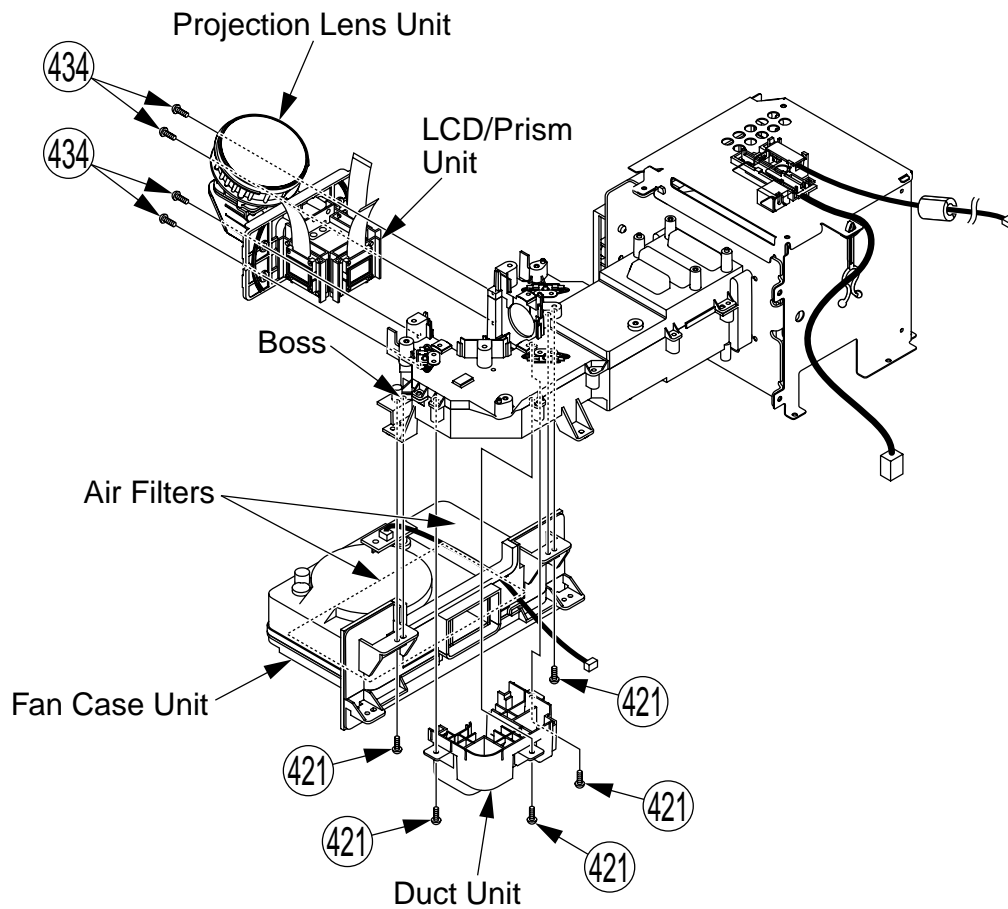


Fig. P3-2

6. Remove the LCD/Prism Unit from the Projection Lens Unit by removing the 4 Screws (423).

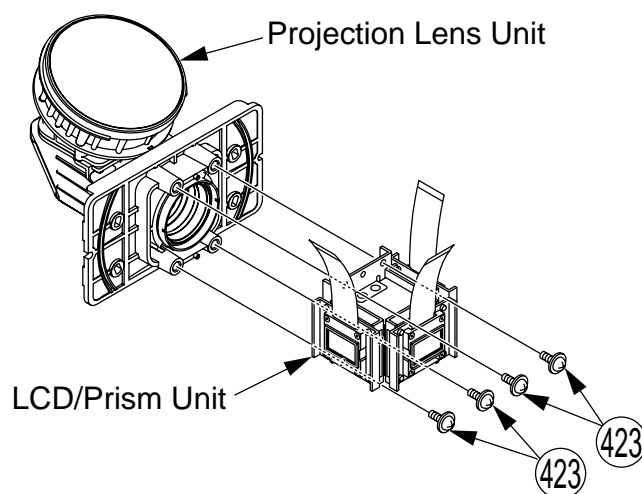
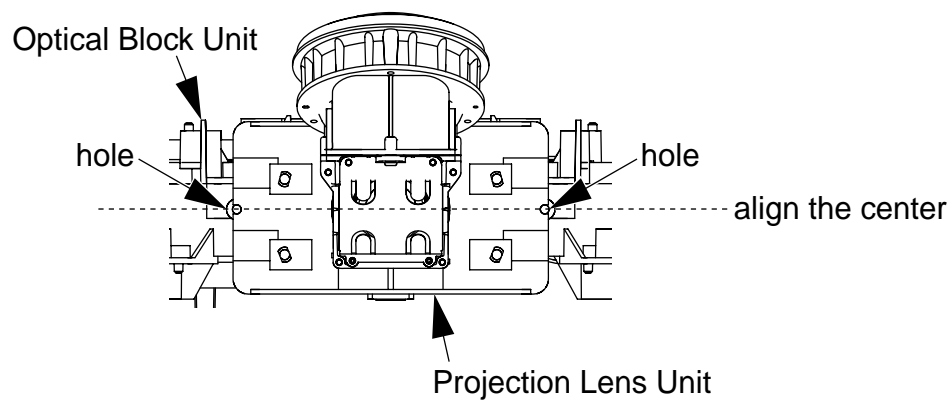


Fig. P3-3

**Reassembly Note for LCD/Prism Unit and Projection Lens Unit:**

1. Be sure to install the LCD/Prism Unit and the Projection Lens Unit before installing the Fan Case Unit. Otherwise, the Fan Case Sponge, etc. will not fit properly with the Projection Lens Unit.
2. Be sure to install the LCD/Prism Unit and the Projection Lens to the Optical Block Unit as shown.

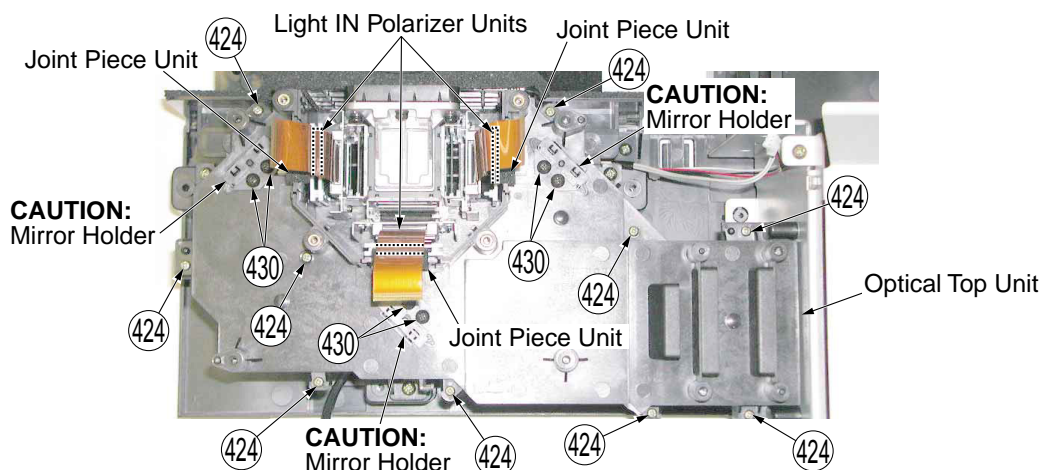


## REMOVAL OF THE P/S CONVERTER, THE FIELD LENS, THE RELAY LENS, THE CONDENSER LENS, THE FULL MIRRORS, THE DICHOIC MIRRORS, AND THE INTEGRATOR

1. Remove the LCD Drive C.B.A. Refer to Steps 1~7 in "REMOVAL OF THE LCD DRIVE C.B.A."
2. **Remove the 3 Mirror Holders by the 6 Screws (430) before removing the Optical Top Unit.**
3. Remove the Optical Top Unit with the Light IN Polarizer Units and the Joint Piece Units by removing the 10 Screws (424).

### Note:

1. Use extreme caution not to damage the Light IN Polarizer Units (Red, Green, Blue), when servicing.
2. Take extreme care not to damage the LCD Panel Flexible Cable.
3. Clean the Polarizer Unit if necessary. Refer to "CLEANING METHOD" in SERVICE NOTES.



### CAUTION:

**Remove the 3 Mirror Holders by the 6 Screws (430) before removing the Optical Top Unit.**

Fig. P5-1

4. Pull out the P/S Converter, the Field Lens Red, Green, Blue, the Relay Lens 1, 2, the Condenser Lens, the Full Mirrors, the Dichroic Mirrors, the Integrator.

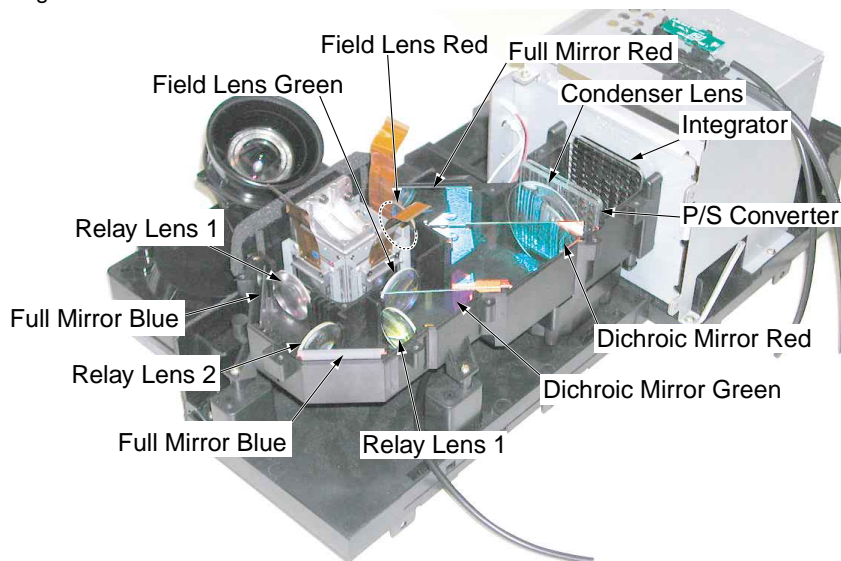


Fig. P5-2

### Note:

1. Use extreme caution not to damage the Optical components such as Mirrors, Lens etc., when servicing.
2. Clean these optical components if necessary. Refer to "CLEANING METHOD" in SERVICE NOTES.

**Reassembly Note for Mirror Holder:**

After installing the Optical Top Unit, be sure to install the Mirror Holders to set the Full Mirror Red, Blue, and the Dichroic Mirror Green in correct position as shown.

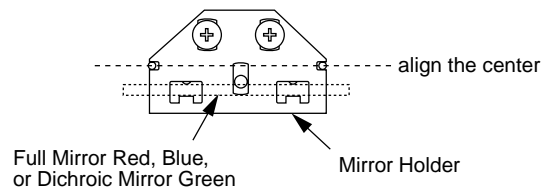


Fig. P5-3

**Reassembly Note for optical components:**

1. Once the Optical Top Unit is removed, perform Full Mirror and Polarizer Adjustment.
2. When mounting the inside components (the Field Lens, the Relay Lens, the Condenser Lens, the Full Mirrors, the Dichroic Mirrors, the Integrator and the P/S Converter), be sure to mount them in the correct position.
3. The P/S Converter consists of 2 layers. One has round corners and the other has sharp corners. The round corner side should be Lamp Unit side.
4. To distinguish the Field Lens Red from the Field Lens Green, put the Field Lens on white paper (Flat Side facing down). Color is visible when viewed from the top. The Field Lens Red looks red. The Field Lens Green looks blue.
5. To distinguish the coating side of the Full Mirror Red, see below.

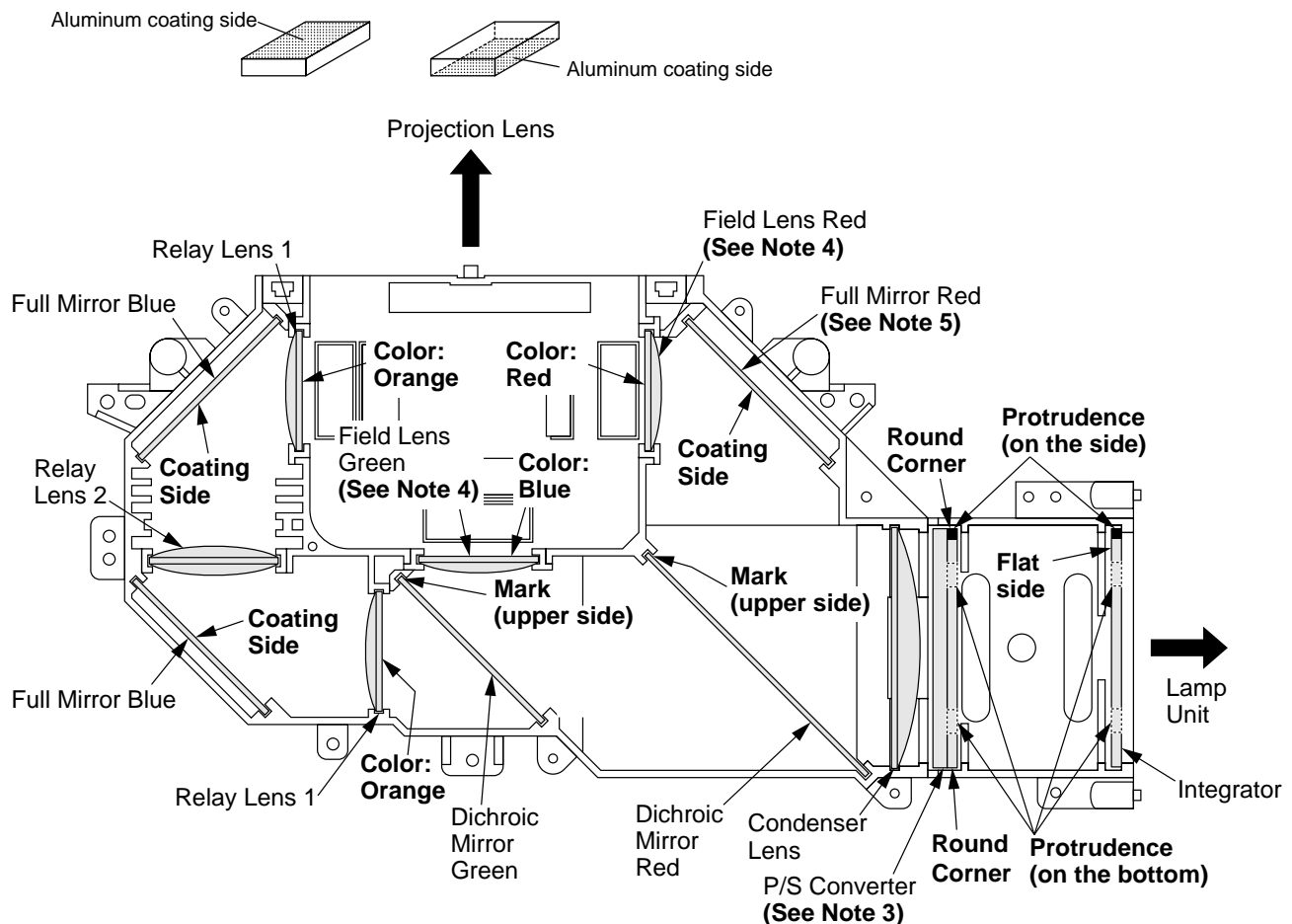


Fig. P5-4

## 6. Location of Cushions

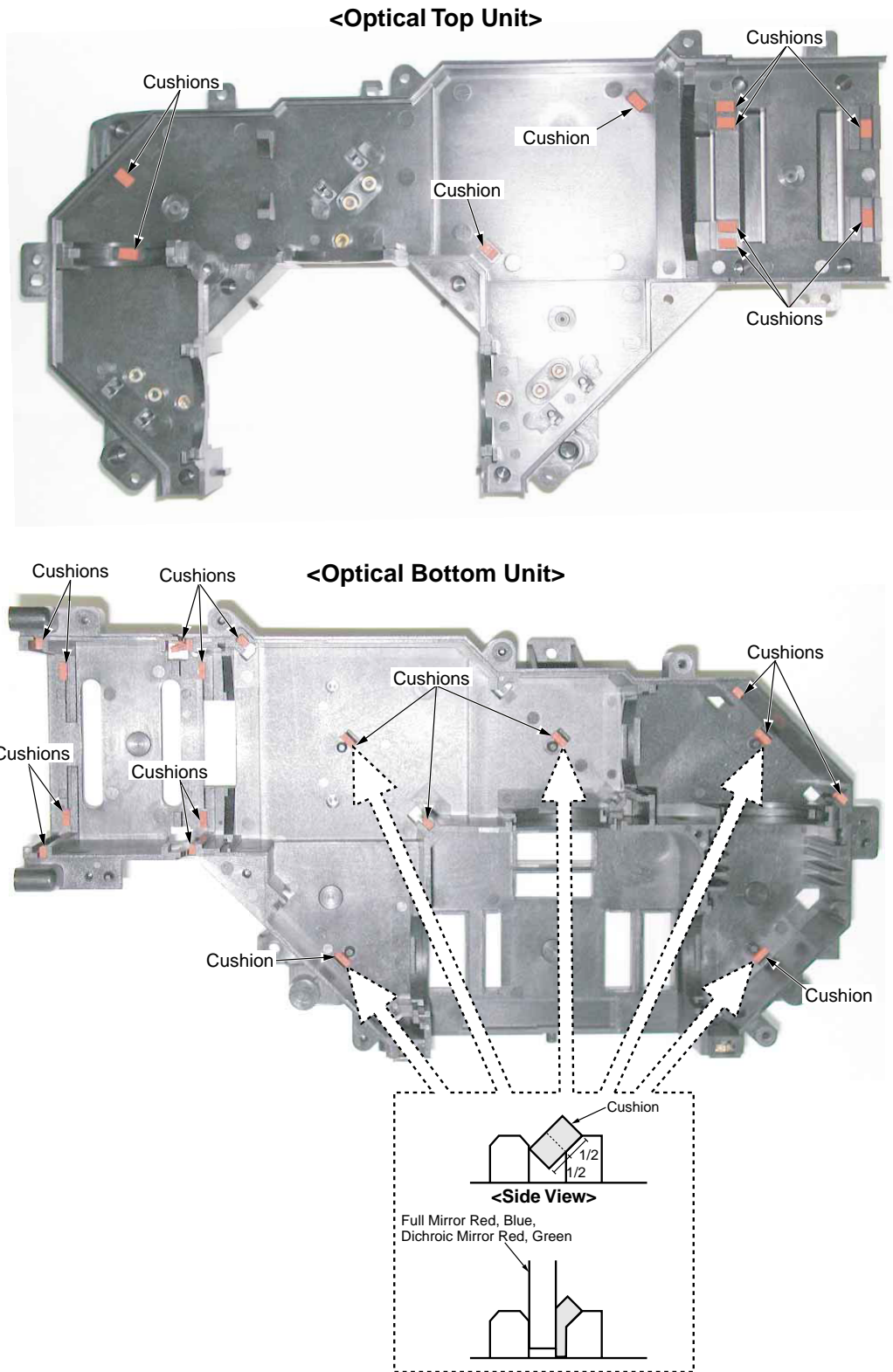


Fig. P5-5

**Note:**

When installing the optical components, take care not to trap the cushions under the components.

# 7 SERVICE FIXTURES AND TOOLS

## SERVICE FIXTURES AND TOOLS

LSEP3112A  
LSUA0042

Relay P.C.B.  
LCD Panel Flat Extension Cable

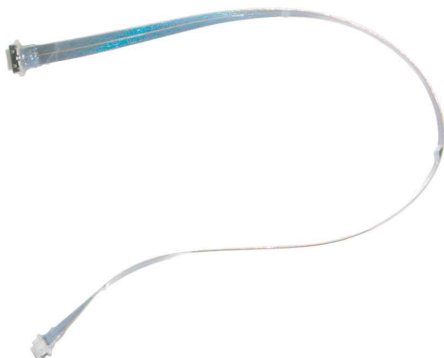


**Note:**

- 1) 3 of each are required for servicing.
- 2) Extension Cable-5 which was included in the 2002 model checker can be used for Relay P.C.B. (LSEP3112A) and LCD Panel Flat Extension Cable (LSUA0042).

LSUA0037

Signal Extension Cable

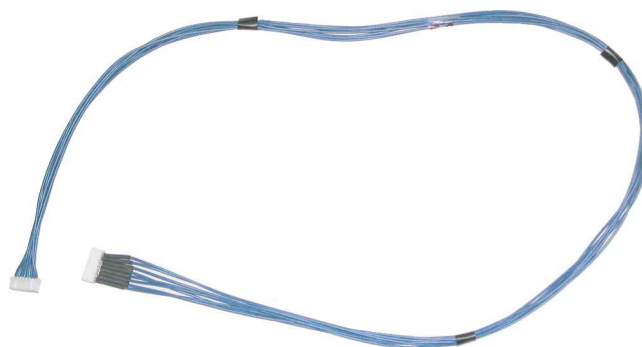


**Note:**

20-pin Cable (LSJA0467) which was used in 2004 model can be used for this service tool.

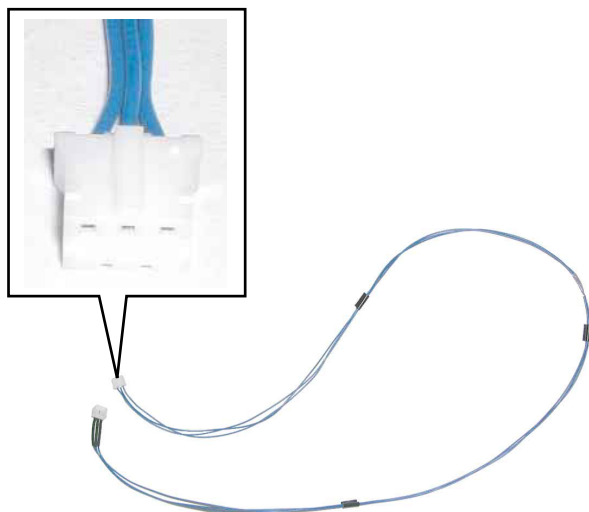
LSUA0038

Power Extension Cable



LSUA0039

Fan1,3 Extension Cable

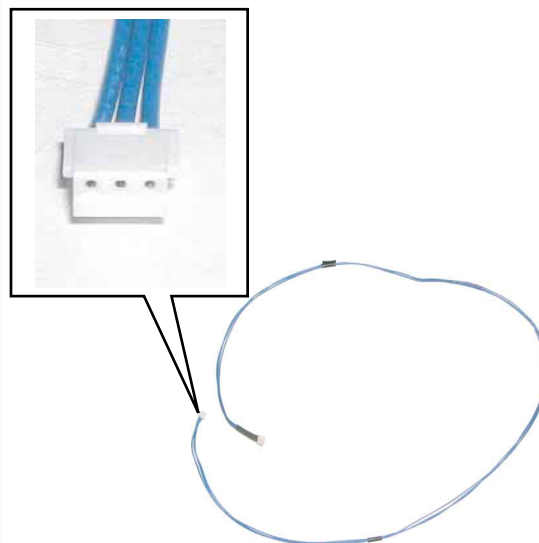


**Note:**



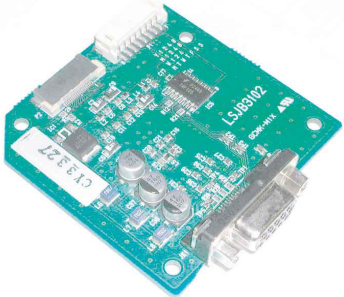

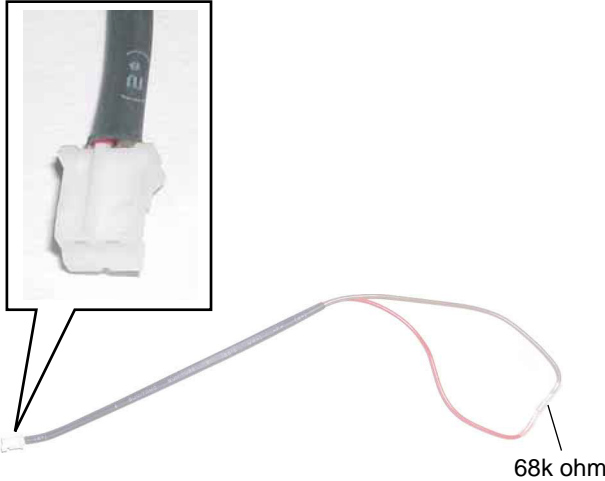
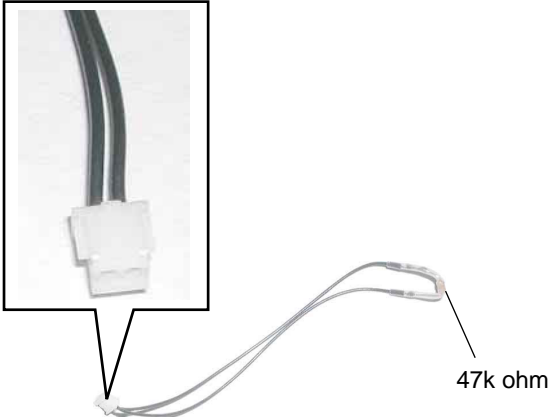
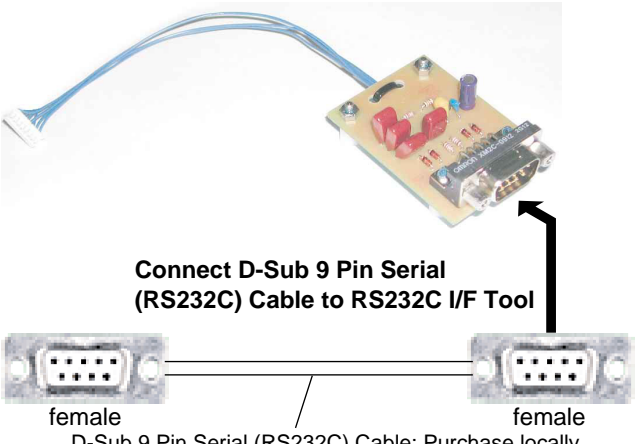

2 of each are required for servicing.

LSUA0040

Fan2 Extension Cable





<p><b>LSEP3164A</b> <b>Converter P.C.B.</b></p> 	<p><b>LSUA0054</b> <b>Extension Cable 8P</b></p>  <p><b>Note:</b> 8-pin Connector Cable (LSJA0530) which was used in PT-43/50/60LC14-K model can be used for this service tool.</p>
<p><b>LSEP3102A</b> <b>Monitor P.C.B.</b></p> 	<p><b>LSUA0041</b> <b>Cover Switch Defeat Cable</b></p>  <p><b>Note:</b> A replacement part (LSJA0476, LSJA0551), which is shorted, can be used for this service tool.</p>
<p><b>LSUA0003</b> <b>Thermistor 1 Defeat Cable</b></p>  <p>68k ohm</p> <p><b>Note:</b> Replacement part (LSJA0477), to which a 68k ohm resistor has been attached, can be used for this service tool.</p>	<p><b>LSUA0013</b> <b>Thermistor 2 Defeat Cable</b></p>  <p>47k ohm</p> <p><b>Note:</b> Replacement part (LSJA0533, LSJA0478), to which a 47k ohm resistor has been attached, can be used for this service tool.</p>
<p><b>LSUA0043</b> <b>RS232C I/F Tool</b></p>  <p>Connect D-Sub 9 Pin Serial (RS232C) Cable to RS232C I/F Tool</p> <p>female D-Sub 9 Pin Serial (RS232C) Cable: Purchase locally</p>	<p><b>RS232C Connecting tool</b> (For 2002 models (PT-40LC12/45LC12))</p>  <p><b>Note:</b> RS232C Connecting tool which was included in the 2002 model checker as shown above can be used for both RS232C I/F Tool (LSUA0043) and D-Sub 9 Pin Serial (RS232C) Cable.</p>

## 8 ADJUSTMENT PROCEDURES 1

### WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:

The following ADJUSTMENT of the Projection Unit must be performed.

- Mechanical Picture Position Adjustment
- Focus Adjustment

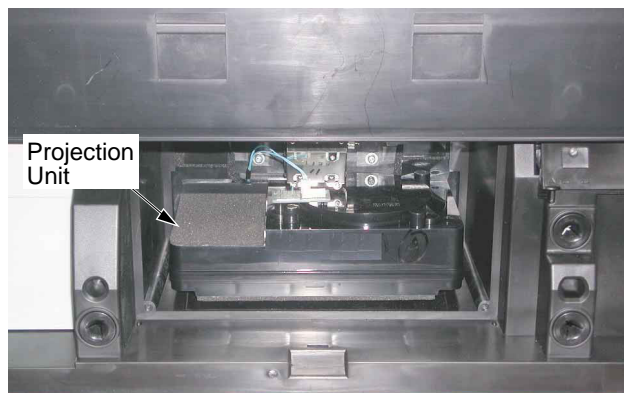
**Note:**

Perform this adjustment only if necessary. (Normally, it will not be necessary.)

- Electrical Picture Position Adjustment

#### Preparation of ADJUSTMENT:

- Install all parts except the Front Cover Unit and the Optical Cover.



(With Front Cover Unit and Optical Cover removed)

<Front View>

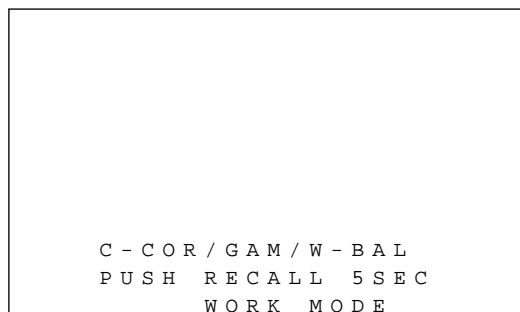
Fig. M1-1

**Note:**

When the rear cover is disassembled, the screen can be moved back and forth, which could affect the video display vertical position. This could also cause the vertical adjust to be at or near its limit.

Only try the picture position adjustment with the rear cover assembled!

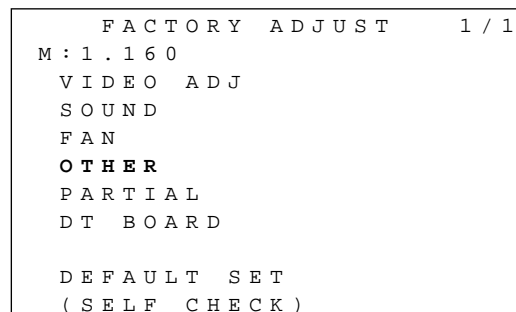
- Turn the power on.
- Press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds in power on condition. The unit will go into Work Mode. ("WORK MODE" will appear on the screen.)



<Work Mode>

Fig. M1-2

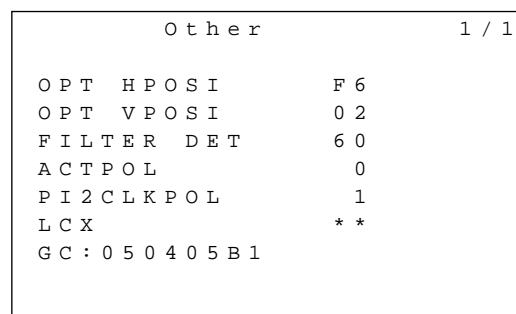
- Then, press and hold the VOLUME DOWN button on the unit and the SWAP key on the remote for more than 1 second. The unit will go into the Factory Adjust Mode. (FACTORY ADJUST menu will appear.)



<Factory Adjust mode>

Fig. M1-3

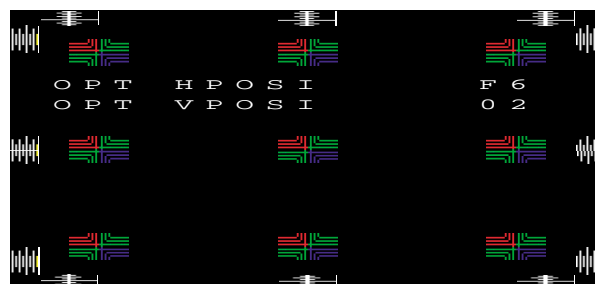
- Then, press the CH UP/DOWN key on the remote to select "OTHER" on menu and press the OK key. (OTHER menu will appear.)



<Factory Adjust Mode>  
(OTHER menu 1/1)

Fig. M1-4

- Press the VOLUME UP/DOWN key on the remote. (Focus screen will appear.)



<Focus Screen>

#### To release this mode:

- After completing the ADJUSTMENT, press the CH UP/DOWN key on the remote to return to the OTHER menu.
- Then, press RECALL key twice to return to Work Mode, and press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds. Alternatively, turn off the power.
- Then, install the Optical Cover with the 2 Screws and the Front Cover Unit.

### a. Mechanical Picture Position Adjustment (Tilt)

- 1) Loosen the 4 Screws on the Projection Unit.

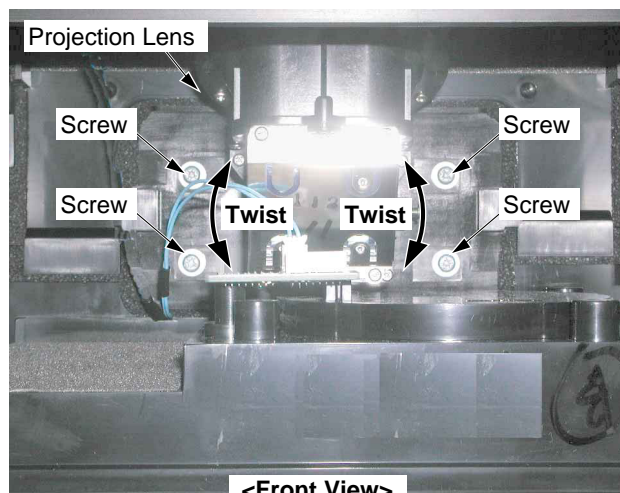
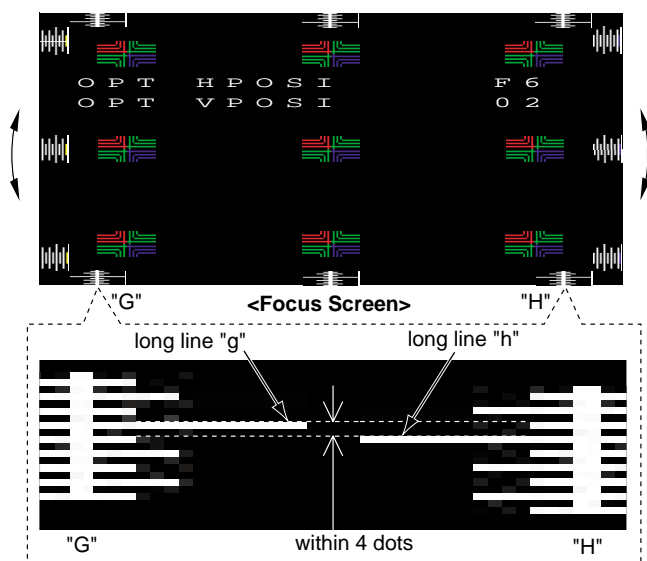


Fig. M1-5

- 2) Adjust the Projection Lens by twisting so that the long line "g" and the long line "h" are within 4 dots. (The long line "g" and the long line "h" will be almost aligned horizontally.)



#### Note:

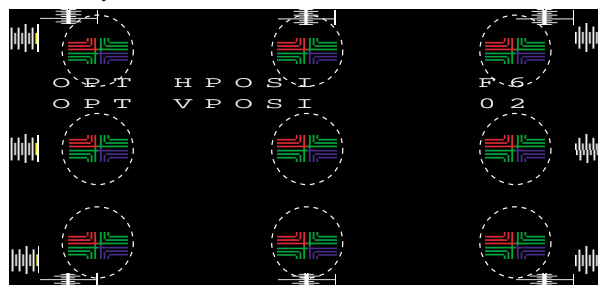
If the Projection Lens is twisted left, the Focus Screen twists left.

If the Projection Lens is twisted right, the Focus Screen twists right.

- 3) Tighten the 4 Screws while fixing the Projection Lens.

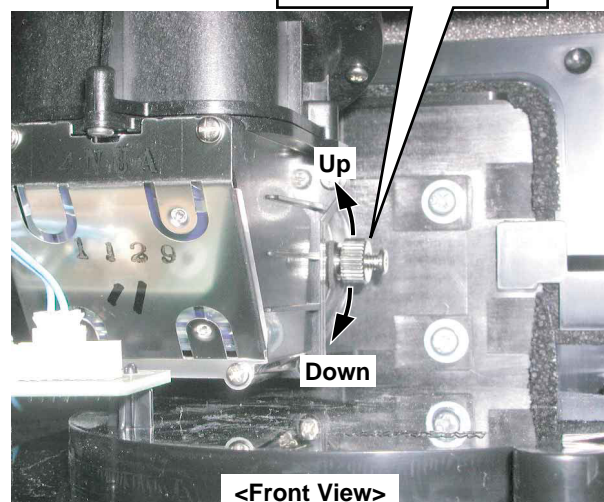
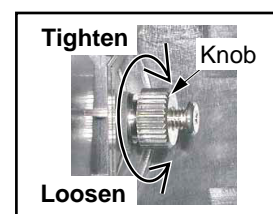
### b. Focus Adjustment

- 1) Confirm that each of the pixels in the nine portions is clearly visible.



&lt;Focus Screen&gt;

- 2) If not, loosen the Knob on the Projection Lens using pliers until the Knob can be moved.



&lt;Front View&gt;

Fig. M1-6

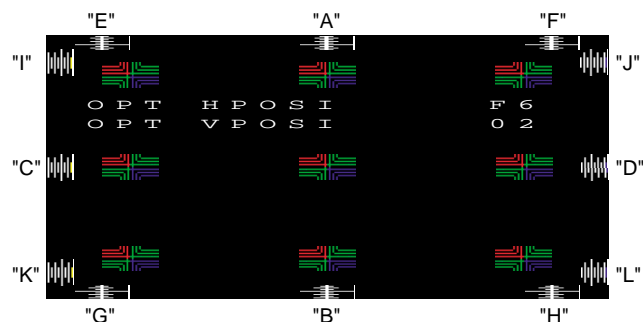
- 3) Adjust the Knob by moving up or down so that each of the pixels in the nine portions is clearly visible to obtain the best focus.
- 4) Tighten the Knob using pliers.

#### Note:

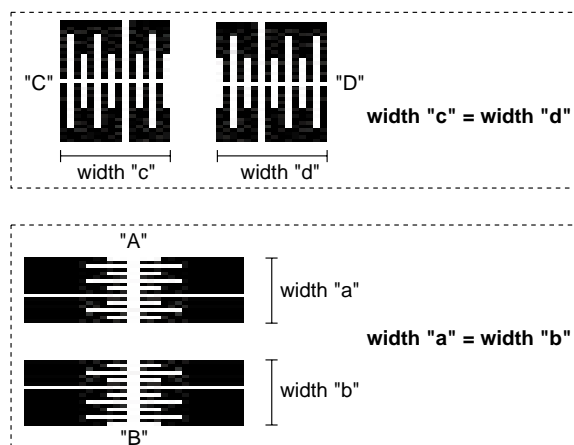
Focus Adjustment is not normally necessary. Perform this adjustment only if necessary.

### c. Electrical Picture Position Adjustment

- 1) Adjust OPT HPOSI so that "C" is symmetrical to "D." by pressing the VOLUME UP/DOWN key on the remote to change the value.
- 2) Press the CH UP/DOWN key on the remote to return to the OTHER menu.
- 3) Select OPT VPOSI by pressing CH UP/DOWN key on the remote.
- 4) Adjust OPT VPOSI so that "A" is symmetrical to "B" by pressing the VOLUME UP/DOWN key on the remote to change the value.



<Focus Screen>



- 5) Confirm that all "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L" are each almost symmetrical.
- 6) If not, adjust the "OPT HPOSI" and "OPT VPOSI" (repeat steps 1-6) until the picture is in the correct position.
- 7) Press the CH UP/DOWN key on the remote to return to the OTHER menu.

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

**Note:** ○ : Adjustment Item

**Note:** △ : When replacing the LCD Drive C.B.A., the LCD/Prism Unit or IC2301(32k EEPROM), confirm that the color of the entire screen. If OK, Gamma Adjustment is not needed. If NG, perform Gamma Adjustment.

: When replacing the LCD Drive C.B.A., Optical Block Unit, the LCD/Prism Unit or IC2301(32k EEPROM), confirm the color uniformity on the screen. If OK, Non-uniformity Color Correction is not needed. If NG, perform Non-uniformity Color Correction.

: When replacing the LCD/Prism Unit, confirm the color uniformity on the screen. If OK, Full Mirror/Polarizer Adjustment are not needed. If NG, perform Full Mirror/Polarizer Adjustment.

**Note:** Once the Optical Top Unit is removed, perform Full Mirror Adjustment and Polarizer Adjustment.

**Note:** When replacing the Projection Unit or the Base Body Unit, any of above adjustment are not needed.

78

Perform the necessary adjustments in numerical order in each section.

↓

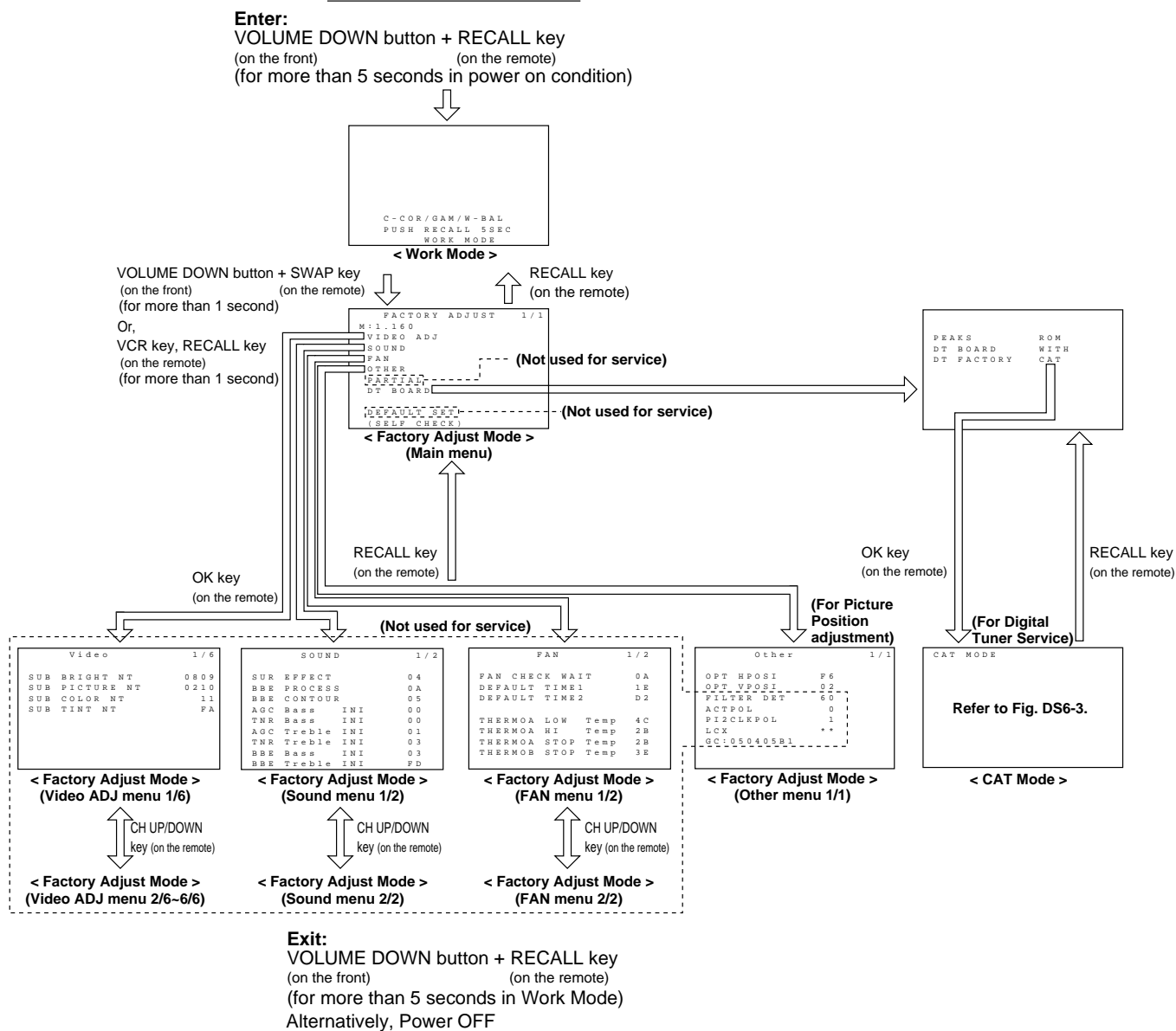
Section	Step No.	Adjustment Item	Necessary Equipment	Input	
<b>Mechanical (Projection Unit) Adjustment Section</b>	①	Full Mirror Adjustment	·Screwdriver (+)/(-) ·NTSC Video Pattern Generator	No signal or 100% White Signal	(VIDEO 1)
	②	Polarizer Adjustment	·Screwdriver (+) ·PC(2) ·(NTSC Video Pattern Generator)	No signal or Test Pattern Signal ·Black Signal or Black Signal	(PC) or (VIDEO 1)
<b>LCD Drive C.B.A. Adjustment Section</b>	①	Fan 1 Voltage Adjustment	·PC(1) ·RS232C I/F Tool ·Digital Volt Meter ·Software(1)	---	---
	②	Fan 2 Voltage Adjustment	·PC(1) ·RS232C I/F Tool ·Digital Volt Meter ·Software(1)	---	---
	③	Fan 3 Voltage Adjustment	·PC(1) ·RS232C I/F Tool ·Digital Volt Meter ·Software(1)	---	---
	④	VCOM Adjustment	·PC(1) ·PC(2) with 720p video graphics card ·RS232C I/F Tool ·Software(1)	Test Pattern Signal ·70% Red Horizontal Signal ·70% Green Horizontal Signal ·70% Blue Horizontal Signal	PC
	⑤	Gamma Adjustment	·PC(1)/(2) ·RS232C I/F Tool ·Software(2)	Test Pattern Signal ·Gray Scale Pattern Signal (16 scales)	PC
	⑥	White Balance Adjustment	·PC(1)/(2) ·RS232C I/F Tool ·Software(1) ·NTSC Video Pattern Generator ·Color Temperature Meter	Gray Scale Pattern Signal (10 scales) Test Pattern Signal ·Gray Scale Pattern Signal (16 scales) ·50% White Pattern Signal	VIDEO 1 or PC
	⑦	Non-uniformity Color Correction (compensation by inputting data)	·PC(1)/(2) ·RS232C I/F Tool ·Software(3)	Test Pattern Signal ·50% White Pattern Signal	PC

**Note:** The PC (1) must have a 10-key keyboard for LCD Drive Adjustment software (1).  
The PC (2) is for Test Pattern Signal.

Fig. E1-2

## WORK MODE AND FACTORY ADJUST MODE

### Work Mode Map



### Factory Adjust Mode

This mode is required when:

- Performing Mechanical Picture Position, Focus and Electrical Picture Position adjustment (Other menu).

#### To enter the Factory Adjust Mode:

- 1) In Work Mode, press and hold the VOLUME DOWN button on the unit and the SWAP key on the remote together for more than 1 second. The unit will go into Factory Adjust Mode. ("FACTORY ADJUST" will appear on the screen.)
- 2) Press CH UP/DOWN key to select and press the OK key to set the item to be adjusted.
- 3) After completing adjustments, press RECALL key twice to return to Work Mode.

Then the adjustment data will be written to the EEPROM IC (IC6006/IC6007) on the Main C.B.A.

#### Note:

Do not unplug the AC Cord in Factory Adjust Mode or the adjustment data will not be written to the EEPROM IC.


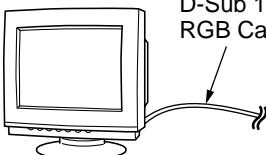

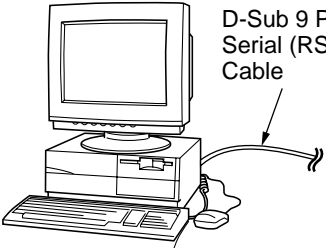

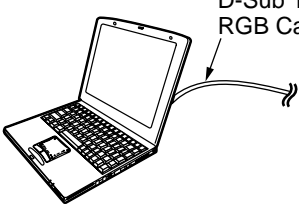


## TEST EQUIPMENT

To do all of these electrical adjustments, the following equipment is required.

1. Dual-Trace Oscilloscope  
Voltage Range: 0.001 V to 50 V/Div.  
Frequency Range: DC to 50 MHz  
Probes: 10:1, 1:1
2. NTSC Video Pattern Generator
3. Plastic Tip Driver and Non-Metal Driver
4. (+) Screwdriver and (-) Screwdriver
5. DVM (Digital Volt Meter)
6. Color Temperature Meter
7. **PC REQUIREMENTS**

The following PCs and Cables are required for Service Position. Prepare the following equipment locally.

PCs	Cables	Illustration	Specification
<b>XGA Color PC Monitor</b> for Main C.B.A. Adjustment	<b>D-Sub 15 Pin RGB Cable</b> for connecting the Monitor P.C.B. (LSEP3102A)  male (For Monitor P.C.B. side)	 D-Sub 15 Pin RGB Cable <b>Note:</b> PC (1) can be used for monitoring.	Monitor: 17 inch XGA (1,024 X 768) Color PC Monitor or higher
<b>PC (1)</b> for LCD Drive C.B.A. Adjustment	<b>D-Sub 9 Pin Serial (RS232C) Cable</b> for connecting the RS232C I/F Tool (LSUA0043)  female-female	 D-Sub 9 Pin Serial (RS232C) Cable <b>Note:</b> PC (1) must have a 10-key keyboard.	Type: Desk Top PC or with 10-key keyboard (Desk Top recommended) Monitor: 17 inch XGA (1,024 X 768) Color PC Monitor or higher OS: Windows® 95,98 Port: D-Sub 9 Pin Serial (RS232C)
<b>PC (2)</b> for Test Pattern Signal	<b>D-Sub 15 Pin RGB Cable</b> for connecting the PC Input Terminal  male-male	 D-Sub 15 Pin RGB Cable	Type: Notebook PC recommended OS: Windows® 95,98 or later Port: RGB output

8. Test Pattern Signal : testptnmmd2002.exe
9. Application Software for LCD Drive C.B.A. Adjustment

Application software	files		
Software (1): LCD Drive Adjustment	LCDDrv1.CAB LCDDrv4.CAB	LCDDrv2.CAB setup.exe	LCDDrv3.CAB SETUP.LST
Software (2): Sce2	SCE2.EXE Command.log GAMMA_USUAL.sce	SCE2.CNT README.TXT	Sce2.GID SCE2.HLP
Software (3): Iromura	iromura mmd2002.exe MMD2003001_2data.csv MMD2003002_2data.csv	MMD2003000_data.csv MMD2003001_3data.csv MMD2003002_3data.csv	MMD2003001_1data.csv MMD2003002_1data.csv

# HOW TO READ THE ADJUSTMENT PROCEDURES

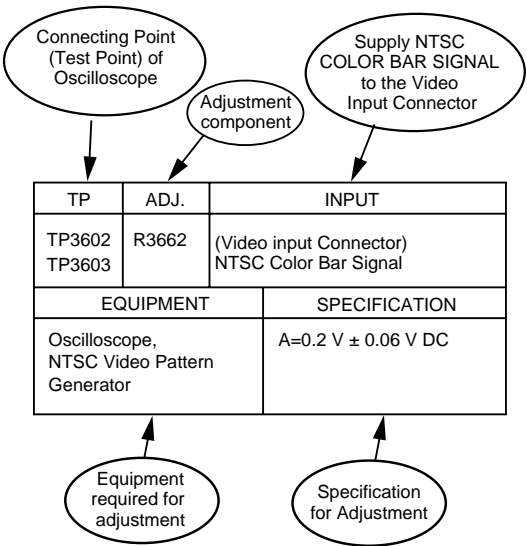


Fig. E2-1

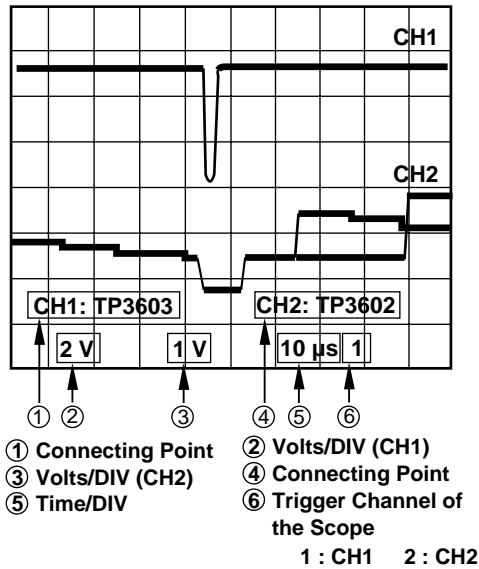


Fig. E2-2

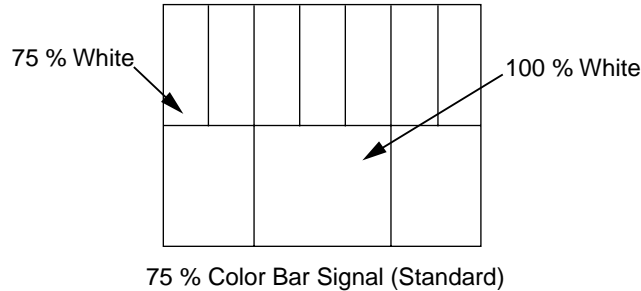
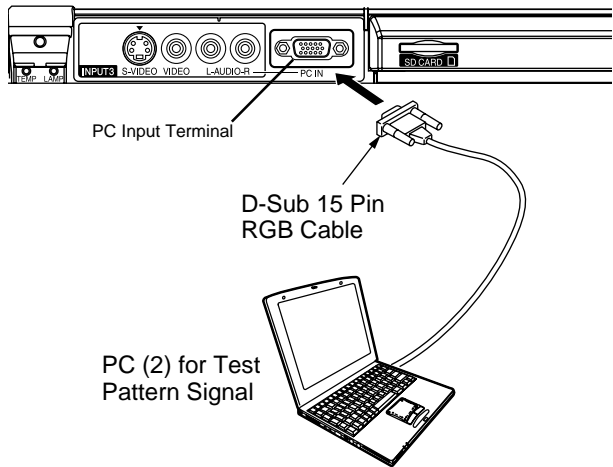
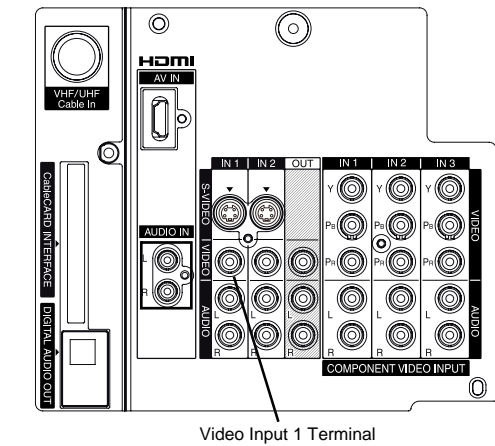


Fig. E2-3

# INPUT TERMINAL INFORMATION



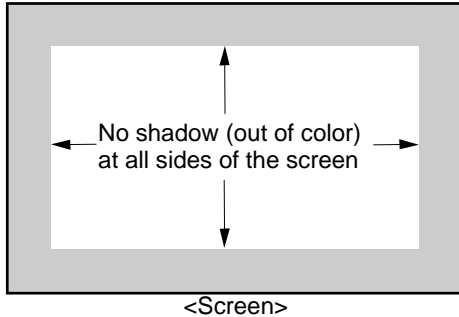
## FULL MIRROR ADJUSTMENT

### Purpose:

To set the Full Mirror in the proper position.

### Symptom of Misadjustment:

The non-uniformity color will appear.



TP	ADJ.	INPUT
	Dichroic Mirror Green Full Mirror Red Full Mirror Blue	No signal input (White Screen is displayed.) <b>(SET UP 1)</b> or (VIDEO Input 1 Terminal) White Signal (100%) <b>(SET UP 2)</b>
EQUIPMENT		SPECIFICATION
NTSC Video Pattern Generator, Screwdriver (+) (-)		Refer to Description below

### Note:

This adjustment should be done in a darkroom.

### SET UP 1:

1. Place the unit into Service Position (3).
2. Set to a desired mode except TV mode by pressing TV/VIDEO key on the remote.
3. Turn off the unit power and unplug the AC Cord.
4. Disconnect the LCD Flat Panel connectors to be no signal input. Then, plug in the AC Cord and turn on the power.

### CAUTION:

When disconnecting/reconnecting the LCD Flat Panel connectors, be sure to unplug the AC Cord.

5. Perform Full Mirror (Green, Red, and Blue) Adjustment as follows in order.

OR

### SET UP 2:

1. Place the unit into Service Position (3).
2. Connect the NTSC Video Pattern Generator to the VIDEO Input 1 Terminal.
3. Supply 100 % White Signal and set to VIDEO 1 mode by pressing TV/VIDEO key on the remote.
4. Perform Full Mirror (Green, Red, and Blue) Adjustment as follows in order.

## DICHROIC MIRROR GREEN ADJUSTMENT

1. Loosen 2 Screws (A) of the Mirror Holder of the Dichroic Mirror Green as they can be moved slightly.
2. Insert a Screwdriver (-) into Portion (a) and/or (a') and turn it to move the Mirror Holder of the Dichroic Mirror Green as indicated by the arrow. Stop moving at the point where there is no shadow around the screen. If there is shadow somewhere on the screen, repeat the above process.

Then, tighten 2 Screws (A) securely (0.2-0.3 N·m).

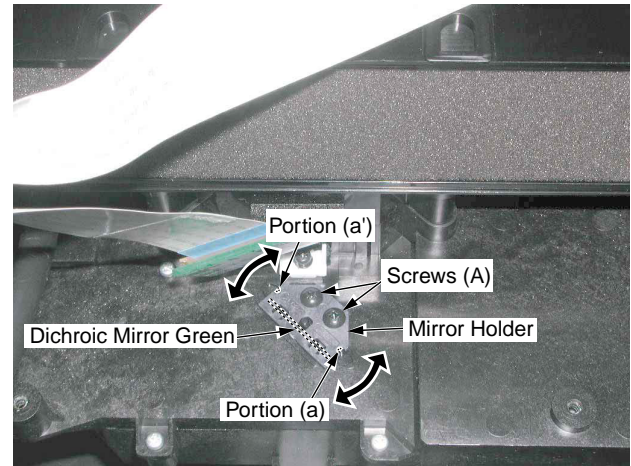


Fig. E3-1

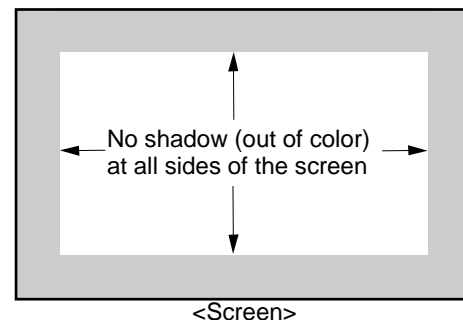


Fig. E3-1-a

**FULL MIRROR RED ADJUSTMENT**

1. Loosen 2 Screws (B) of the Mirror Holder of the Full Mirror Red as they can be moved slightly.
2. Insert a Screwdriver (-) into Portion (b) and/or (b') and turn it to move the Mirror Holder of the Full Mirror Red as indicated by the arrow. Stop moving at the point where there is no shadow around the screen.  
If there is shadow somewhere on the screen, repeat the above process.

Then, tighten 2 Screws (B) securely (0.2-0.3 N·m).

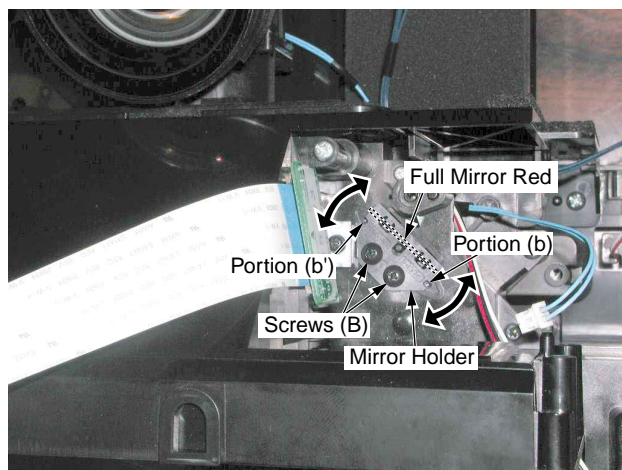
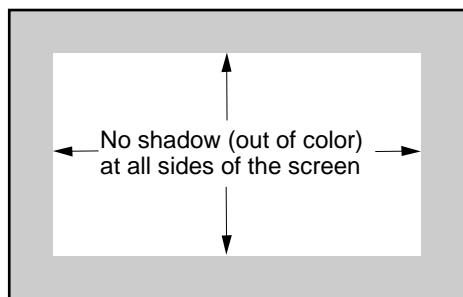


Fig. E3-2



<Screen>  
Fig. E3-2-a

**FULL MIRROR BLUE ADJUSTMENT**

1. Loosen 2 Screws (C) of the Mirror Holder of the Full Mirror Blue as they can be moved slightly.
2. Insert a Screwdriver (-) into Portion (c) and/or (c') and turn it to move the Mirror Holder of the Full Mirror Blue as indicated by the arrow. Stop moving at the point where there is no shadow around the screen.  
If there is shadow somewhere on the screen, repeat the above process.

Then, tighten 2 Screws (C) securely (0.2-0.3 N·m).

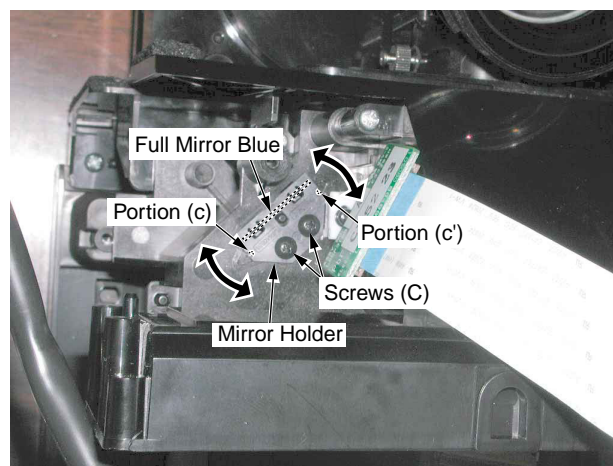
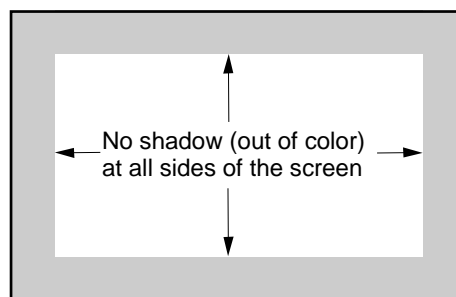


Fig. E3-3



<Screen>  
Fig. E3-3-a

## POLARIZER ADJUSTMENT

### Note:

Be sure to perform this adjustment after Full Mirror Adjustment are completed.

### Purpose:

To set the polarizer in the proper position.

### Symptom of Misadjustment:

The picture will become bluish or reddish or greenish.

TP	ADJ.	INPUT
	Light IN Polarizer Green Light IN Polarizer Red Light IN Polarizer Blue	No signal input (Black screen is displayed.) <b>(SET UP 1)</b> or (PC Input Terminal) Black Signal <b>(SET UP 2)</b> or (VIDEO Input 1 Terminal) Black Signal <b>(SET UP 3)</b>
EQUIPMENT		SPECIFICATION
Screwdriver (+), PC(2), Test Pattern Signal, (NTSC Video Pattern Generator)		Refer to Description below

### Note:

This adjustment should be done in a darkroom.

### Test Pattern Signal:

- Black Signal: "8 Black" in "1 Color"

### SET UP 1:

1. Place the unit into Service Position (3).
2. Set to a desired mode except TV mode by pressing TV/VIDEO key on the remote.
3. No signal input.
4. Perform Light IN Polarizer (Green, Red and Blue) Adjustment as follows in order.

OR

### SET UP 2:

1. Place the unit into Service Position (3).
2. Connect the PC (2) to the PC Input Terminal with the RGB cable.
3. Supply Black Signal and set to PC mode by pressing TV/VIDEO key on the remote.
4. Perform Light IN Polarizer (Green, Red and Blue) Adjustment as follows in order.

OR

### SET UP 3:

1. Place the unit into Service Position (3).
2. Connect the NTSC Video Pattern Generator to the VIDEO Input 1 Terminal.
3. Supply Black Signal and set to VIDEO 1 mode by pressing TV/VIDEO key on the remote.
4. Perform Full Mirror (Green, Red, and Blue) Adjustment as follows in order.

### Note:

Confirm that the picture will become black (not become bluish or reddish or greenish) after adjustment.

## LIGHT IN POLARIZER GREEN ADJUSTMENT

1. Loosen a Screw (A) of the Light IN Polarizer Green Unit.
2. Move the Light IN Polarizer Green Unit to the right and left so that there is no green tint on the whole screen, and then tighten a Screw (A) (0.20-0.23 N·m).

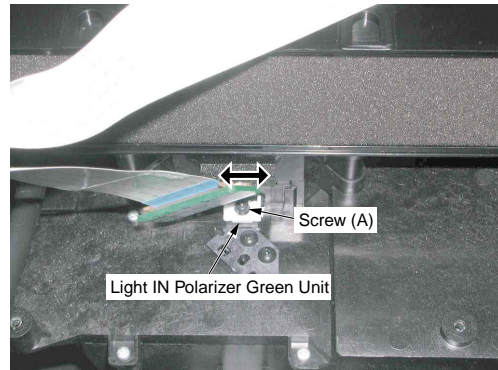


Fig. E4-1

## LIGHT IN POLARIZER RED ADJUSTMENT

1. Loosen a Screw (B) of the Light IN Polarizer Red Unit.
2. Move the Light IN Polarizer Red Unit to the right and left so that there is no red tint on the whole screen, and then tighten a Screw (B) (0.20-0.23 N·m).

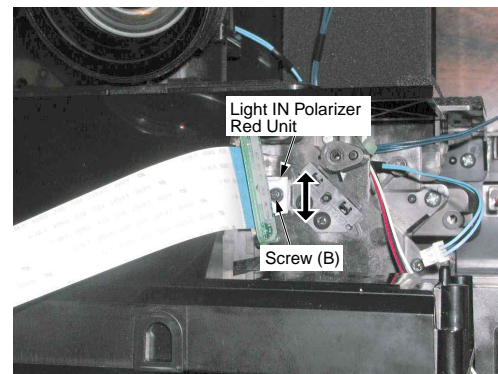


Fig. E4-2

## LIGHT IN POLARIZER BLUE ADJUSTMENT

1. Loosen a Screw (C) of the Light IN Polarizer Blue Unit.
2. Move the Light IN Polarizer Blue Unit to the right and left so that there is no blue tint on the whole screen, and then tighten a Screw (C) (0.20-0.23 N·m).

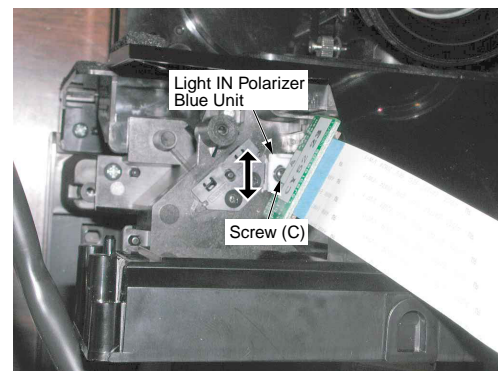


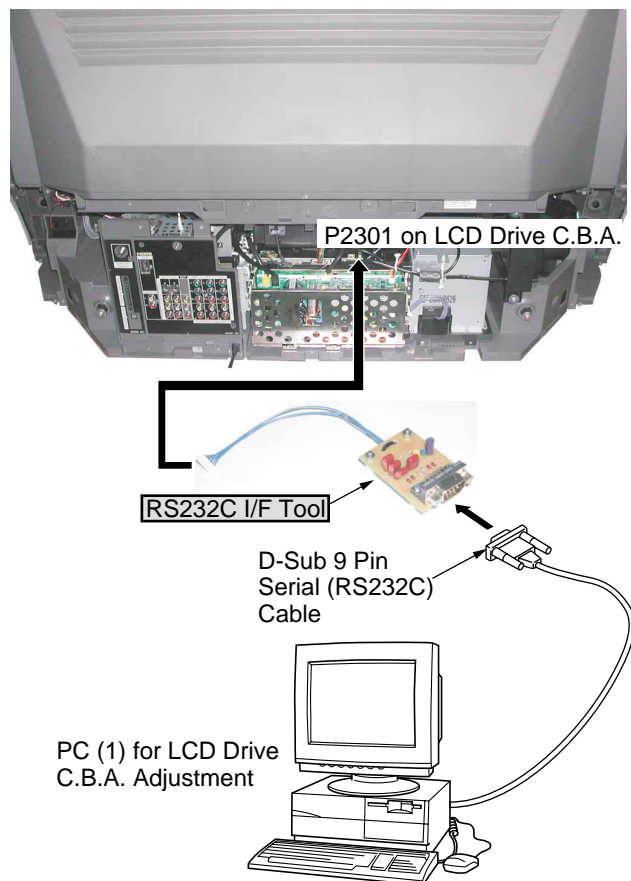
Fig. E4-3



# 1. FAN1, FAN2, FAN3, VCOM, WHITE BALANCE ADJUSTMENT

## SET UP for LCD Drive Adjustment software (Software (1)):

- 1) Remove the Rear Cover.
- 2) Connect the PC (1) and P2301 on the LCD Drive C.B.A. with the RS232C I/F Tool and the D-Sub 9 Pin Serial (RS232C) Cable.



- 2) Install the software (1) into the PC (1).

### Note:

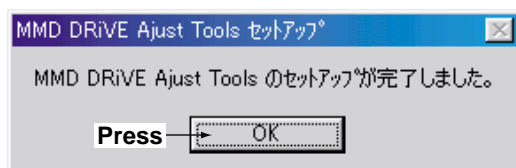
The PC (1) must have a 10-key keyboard.

- 1) Copy the "LCD Drive Adjustment software (6 items)" folder to any drive.

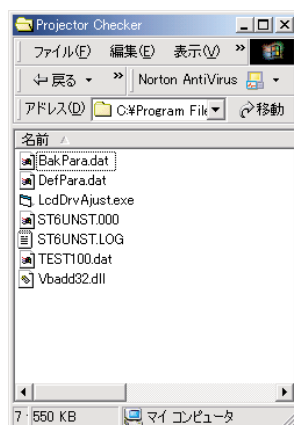
Application software	files
Software (1): LCD Drive Adjustment	LCDDrv1.CAB LCDDrv2.CAB LCDDrv3.CAB LCDDrv4.CAB setup.exe SETUP.LST

- 2) Execute the "setup.exe" to install.
- 3) Press the buttons in the following dialog boxes as shown.

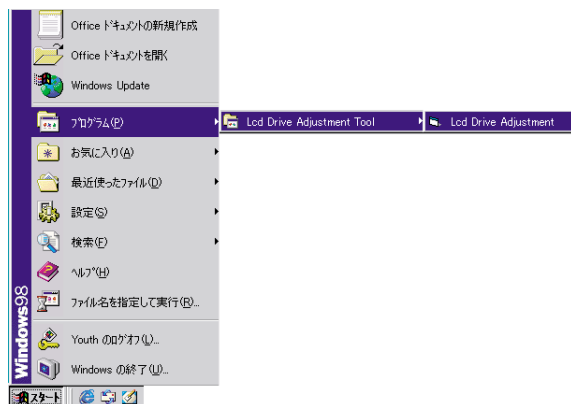




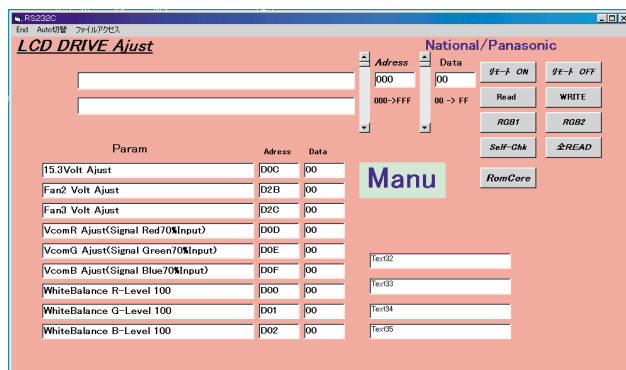
- 4) The following files will be created on "C:\Program Files\Projector Checker." Software (1) installation is complete.



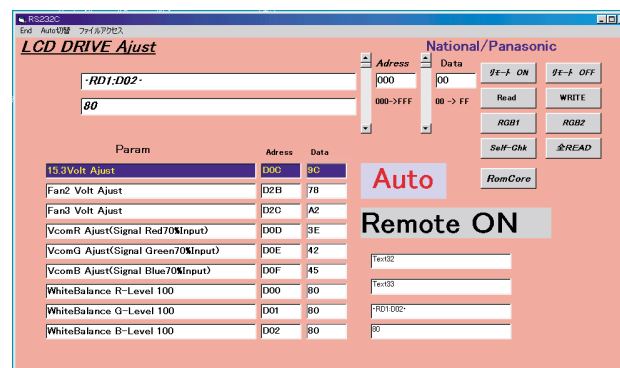
3. Turn on the unit power.  
4. To start up the software (1), select the "LCD Drive Adjustment" on Program in Start menu. The start-up menu will appear.



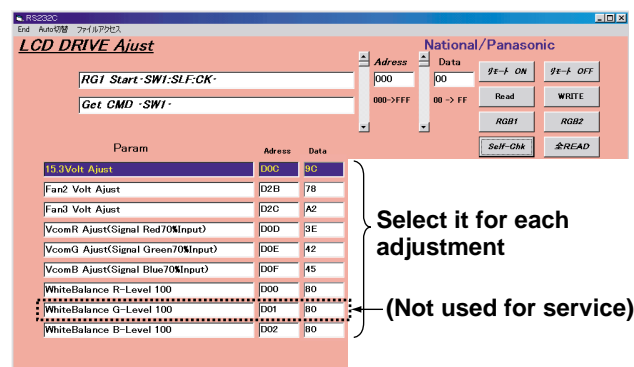
5. To turn the remote on, press DEL key.



6. "Manu" indication will change to "Auto" indication, and "Remote ON" indication will appear. Confirm NUMLOCK is on. If not, turn on NUMLOCK by pressing the NUMLOCK key on the 10-key keyboard.



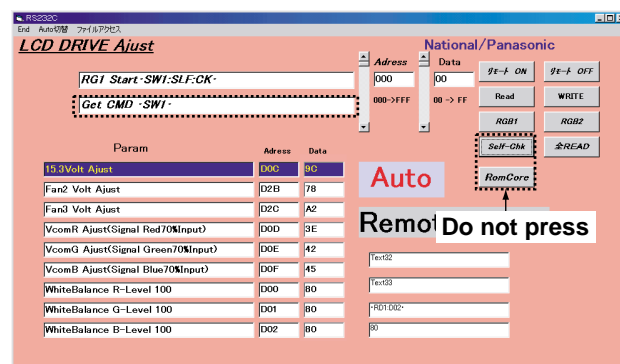
7. Perform the necessary adjustment for the LCD Drive C.B.A.



8. After completing adjustments, turn the remote off by pressing DEL key. Then, end the software (1).

## CAUTION OF IC2301 REPLACEMENT:

EEPROM IC (IC2301) is supplied with the data written. After replacing IC2301, Do not press "Self-Chk" and "Rom Core."





## FAN 1 VOLTAGE ADJUSTMENT

### Purpose:

To set the optimum rotation speed of the Fan 1.

### Symptom of Misadjustment:

Temperature of the unit becomes too high or sound of the Fan 1 becomes loud.

TP	ADJ.	INPUT
P2902 (Pin 1) or TP2907	15.3Volt Adjust	
EQUIPMENT		SPECIFICATION
PC(1), DVM (Digital Volt Meter)		+7.0 VDC±0.05 VDC

1. Connect the DVM (Digital Volt Meter) to P2902 (Pin 1) on the LCD Drive C.B.A. after disconnecting the Connector Cable from Connector P2902.
2. Select "15.3Volt Adjust" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
3. Adjust "15.3Volt Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that the voltage becomes +7.0 VDC±0.05 VDC.

## FAN 3 VOLTAGE ADJUSTMENT

### Purpose:

To set the optimum rotation speed of the Fan 3.

### Symptom of Misadjustment:

Temperature of the unit becomes too high or sound of the Fan 3 becomes loud.

TP	ADJ.	INPUT
P2904 (Pin 1) or TP2909	Fan3 Volt Adjust	
EQUIPMENT		SPECIFICATION
PC(1), DVM (Digital Volt Meter)		+7.0 VDC±0.05 VDC

1. Connect the DVM (Digital Volt Meter) to P2904 (Pin 1) on the LCD Drive C.B.A. after disconnecting the Connector Cable from Connector P2904.
2. Select "Fan3 Volt Adjust" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
3. Adjust "Fan3 Volt Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that the voltage becomes +7.0 VDC±0.05 VDC.

## FAN 2 VOLTAGE ADJUSTMENT

### Purpose:

To set the optimum rotation speed of the Fan 2.

### Symptom of Misadjustment:

Temperature of the unit becomes too high or sound of the Fan 2 becomes loud.

TP	ADJ.	INPUT
P2903 (Pin 1) or TP2908	Fan2 Volt Adjust	
EQUIPMENT		SPECIFICATION
PC(1), DVM (Digital Volt Meter)		+8.0 VDC±0.05 VDC

1. Connect the DVM (Digital Volt Meter) to P2903 (Pin 1) on the LCD Drive C.B.A. after disconnecting the Connector Cable from Connector P2903.
2. Select "Fan2 Volt Adjust" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
3. Adjust "Fan2 Volt Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that the voltage becomes +8.0 VDC±0.05 VDC.

## VCOM ADJUSTMENT

### Purpose:

To set the optimum LCD common voltage.

### Symptom of Misadjustment:

The picture will be flickering.

TP	ADJ.	INPUT
	Vcom R Adjust	(PC Input Terminal) 70 % Red Horizontal Signal
	Vcom G Adjust	(PC Input Terminal) 70 % Green Horizontal Signal
	Vcom B Adjust	(PC Input Terminal) 70 % Blue Horizontal Signal
EQUIPMENT		SPECIFICATION
PC(1)/(2), Test Pattern Signal or PC(1) with 720p video graphics card		Refer to Description below

### CAUTION:

This method is for use with PC which has a 720p video graphics card to output the Test Pattern Signal.

### Test Pattern Signal:

- 70 % Red Horizontal Signal: "2 Red 70 %" in "2 Horizontal" of "3 Phase"
- 70 % Green Horizontal Signal: "3 Green 70 %" in "2 Horizontal" of "3 Phase"
- 70 % Blue Horizontal Signal: "4 Blue 70 %" in "2 Horizontal" of "3 Phase"

1. Connect the PC(2) to the PC Input Terminal with the RGB Cable.
2. Set to PC mode by pressing TV/VIDEO key on the remote.
3. Supply 70% Red Horizontal signal. (PC (2) output should be **720p resolution (1280 x 720)**.)

### Note:

A Desk Top PC with a video graphics card compatible with 720p resolution must be used.

1. Select "Vcom R Adjust" in software (1) menu by 2(↓), 8(↑) key on the 10-key keyboard.
2. Adjust "Vcom R Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that there are no flicker on the whole screen.
3. Supply 70% Green Horizontal signal.
4. Then, select "Vcom G Adjust" in software (1) menu.
5. Adjust "Vcom G Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that the flicker on the whole screen becomes minimum and uniformity.
6. Supply 70% Blue Horizontal signal.
7. Then, select "Vcom B Adjust" in software (1) menu.
8. Adjust "Vcom B Adjust" by pressing 4(←), 6(→) key on the 10-key keyboard so that the flicker on the whole screen becomes minimum and uniformity.
9. Then, end the software (1).

## WHITE BALANCE ADJUSTMENT

### Note:

1. Be sure to perform the White Balance Adjustment after turning on the power for more than 10 minutes so that color temperature is stable.
2. This adjustment should be done in a darkroom.

### Purpose:

To set the standard white level for each color temperature.

### Symptom of Misadjustment:

The white color of picture will become bluish or reddish.

TP	ADJ.	INPUT
	White Balance R-Level 100 White Balance B-Level 100	(PC Input Terminal) Gray Scale Pattern Signal (16 scales) or (VIDEO Input 1 Terminal) Gray Scale Pattern Signal (10 scales)
EQUIPMENT		SPECIFICATION
PC(1)/(2), Test Pattern Signal, NTSC Video Pattern Generator		Refer to Description below

### Test Pattern Signal:

- Gray Scale Pattern Signal (16 scales): "1 White 16 grade (Horiz)" in "Bar Reverse"

### Rough Adjustment:

#### (Rough adjustment by PC signal : Judged by eye)

1. Connect the PC(2) to the PC Input Terminal with the RGB Cable.
2. Set to PC mode by pressing TV/VIDEO key on the remote.
3. Supply Gray Scale Pattern Signal (16 scales) from PC(2).
4. Select "White Balance R-Level 100" or "White Balance B-Level 100" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
5. Adjust "White Balance R-Level 100" and "White Balance B-Level 100" by pressing 4(←), 6(→) key on the 10-key keyboard so that the area around 14th and 16th scale (A) becomes pure gray with no red or blue tint.

Gray Scale Pattern Signal (16 scales)

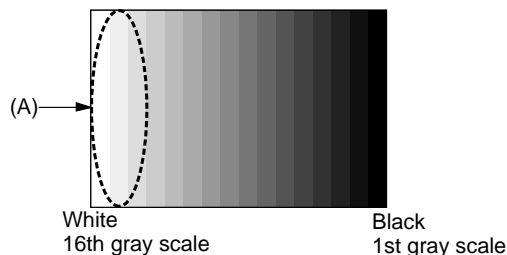


Fig. E8-1

### Note:

Adjust it with viewing in scale(A) though, the white color of whole screen changes.

#### (Rough adjustment by video signal : Judged by eye)

1. Connect the NTSC Video Pattern Generator to the VIDEO Input 1 Terminal.
2. Set to VIDEO 1 mode by pressing TV/VIDEO key on the remote.
3. Supply Gray Scale Pattern Signal (10 scales).
4. Select "White Balance R-Level 100" or "White Balance B-Level 100" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
5. Adjust "White Balance R-Level 100" and "White Balance B-Level 100" by pressing 4(←), 6(→) key on the 10-key keyboard so that the area around 9th and 10th scale (B) becomes pure gray with no red or blue tint.

Gray Scale Pattern Signal (10 scales)

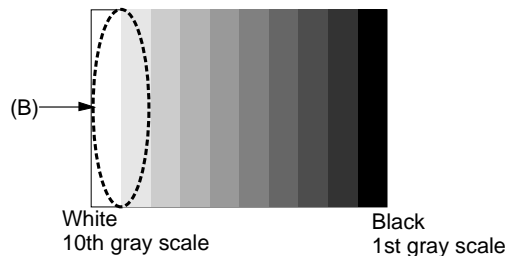


Fig. E8-2

### Note:

Adjust it with viewing in scale(B) though, the white color of whole screen changes.

**Fine Adjustment:**

TP	ADJ.	INPUT
	White Balance R-Level 100 White Balance B-Level 100	(PC Input Terminal) 50 % White Pattern Signal 100 % White Pattern Signal
EQUIPMENT		SPECIFICATION
PC(1)/(2), Test Pattern Signal, Color Temperature Meter		Refer to Description below

**Test Pattern Signal:**

- 50 % White Pattern Signal: "9 Gray" in "1 Color"
- 100 % White Pattern Signal: "1 White" in "1 Color"

1. Set to PC mode by pressing TV/VIDEO key on the remote.
2. Supply 50 % White Pattern Signal from PC(2).
3. Select "White Balance R-Level 100" or "White Balance B-Level 100" on menu by 2(↓), 8(↑) key on the 10-key keyboard.
4. Adjust "White Balance R-Level 100" and "White Balance B-Level 100" by pressing 4(←), 6(→) key on the 10-key keyboard so that the color temperature (K) and its deviation (uv) in the center of the screen are 9300 K to 10900 K, and -0.020 uv to -0.004 uv ( $x=0.283 - 0.291$ ,  $y=0.259 - 0.289$ ) respectively by Color Temperature Meter.
5. Supply 100 % White Pattern Signal from PC(2).
6. Confirm that the color temperature (K) and its deviation (uv) in the center of the screen are 8000 K to 13000 K, and -0.016 uv to +0.002 uv ( $x=0.273 - 0.299$ ,  $y=0.263 - 0.295$ ) respectively by Color Temperature Meter.
7. If OK, end the software (1).  
If NG, repeat steps 2 through 6 until color temperature (K) and its deviation (uv) become within the specification.

## 2. GAMMA ADJUSTMENT (Compensation by transmitting gamma data)

### Note:

When replacing the LCD Drive C.B.A., the LCD/Prism Unit or IC2301 (32k EEPROM), confirm that the color of the entire screen. If NG, perform this adjustment.

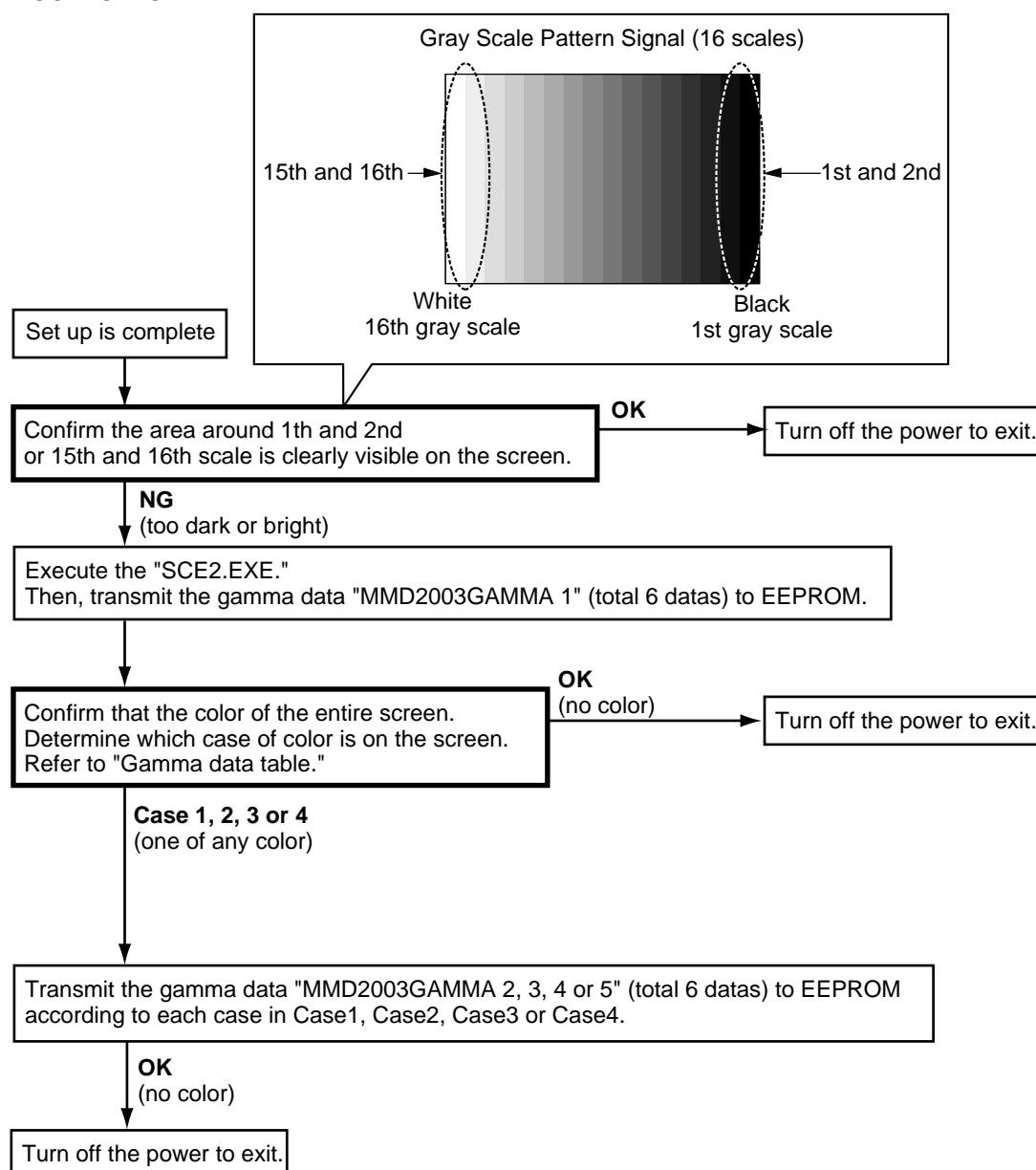
### SET UP:

1. Connect the PC (1) and P2301 on the LCD Drive C.B.A. with the RS232C I/F Tool and the D-Sub 9 Pin Serial (RS232C) Cable.
2. Install the software (2) into the PC(1).
  - 1) Copy the "SCE2 (7 items)" folder to any drive.

Application software	files
Software (2): Sce2	SCE2.EXE SCE2.CNT Sce2.GID Command.log README.TXT SCE2.HLP GAMMA_USUAL.sce

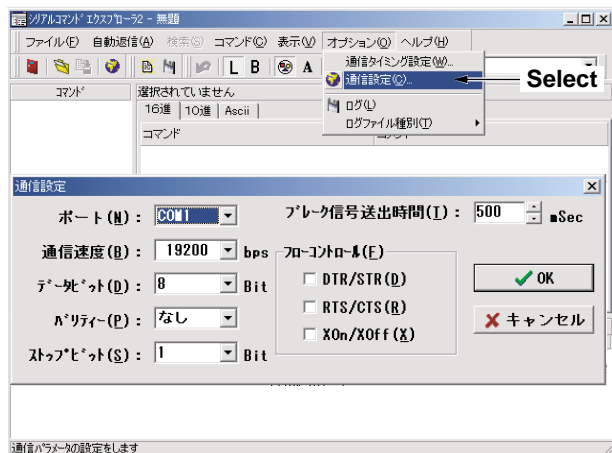
3. To start up the software (2), execute the "SCE2.EXE" by double clicking.
4. Set to PC mode by pressing TV/VIDEO key on the remote.
5. Supply Gray Scale Pattern Signal (16 scales): "1 White 16 grade (Horiz)" in "Bar Reverse" of Test Pattern Signal from PC(2).
6. Set the FULL mode by pressing ASPECT key.

### PROCEDURES:

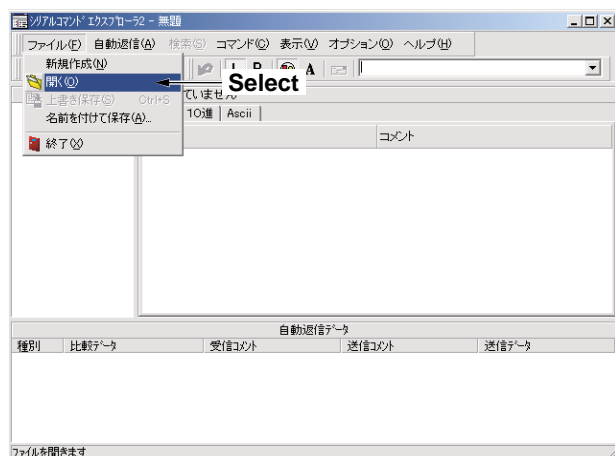


## How to transfer the gamma data using the software (2):

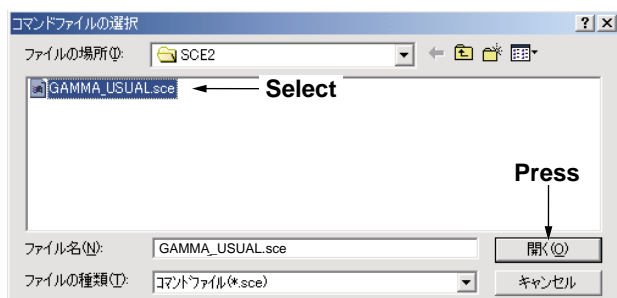
1. Execute the "SCE2.EXE" file by double clicking. The start-up menu will appear.
2. Select "(C)" on option pull-down menu, and confirm the transmission setting as shown.



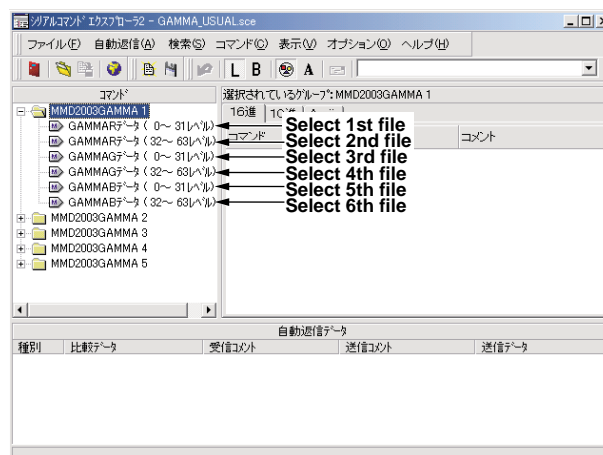
3. Select "(Q)" on file pull-down menu.



4. Select "GAMMA\_USUAL.sce" file, and press "Open."



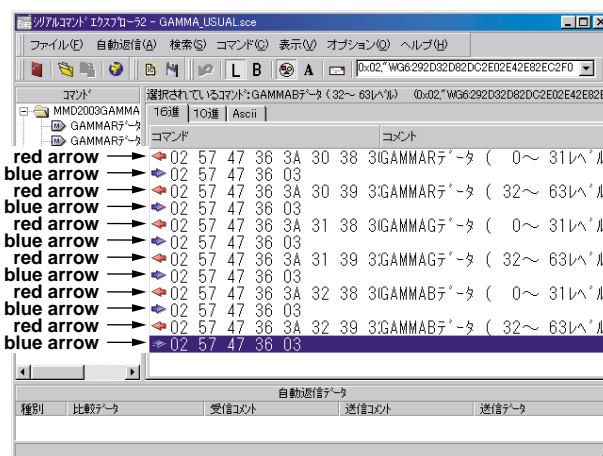
5. Select desired gamma data of "MMD2003GAMMA" folder (MMD2003GAMMA 1-5). Then, double click the 1st, 2nd, 3rd, 4th, 5th and 6th files in order.



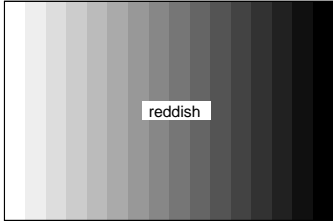
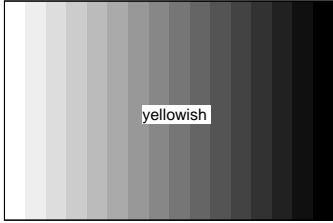
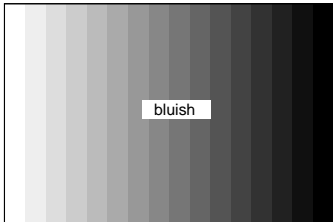
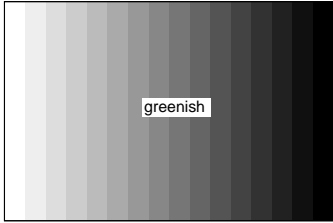
When the file is double clicked, the transmission will start. The red arrow will appear, and then the blue arrow appear. First, a red arrow will appear, then a blue arrow. The red and blue arrows will appear alternately.

### Note:

If the blue arrow does not appear or the "Error" indication appears, transmission has failed. In this case, double click the file again until the blue arrow appears.



&lt;Gamma data table&gt;

	color <on screen>	data folder
<b>Case1</b>		MMD2003GAMMA 2 (6 files)
<b>Case2</b>		MMD2003GAMMA 3 (6 files)
<b>Case3</b>		MMD2003GAMMA 4 (6 files)
<b>Case4</b>		MMD2003GAMMA 5 (6 files)



### 3. NON-UNIFORMITY COLOR CORRECTION (Compensation by transmitting color correction data)

#### Note:

When replacing the LCD Drive C.B.A., the Optical Block Unit, the LCD/Prism Unit or IC2301 (32k EEPROM), confirm the color uniformity on the screen. If the non-uniformity color appears, perform this correction.

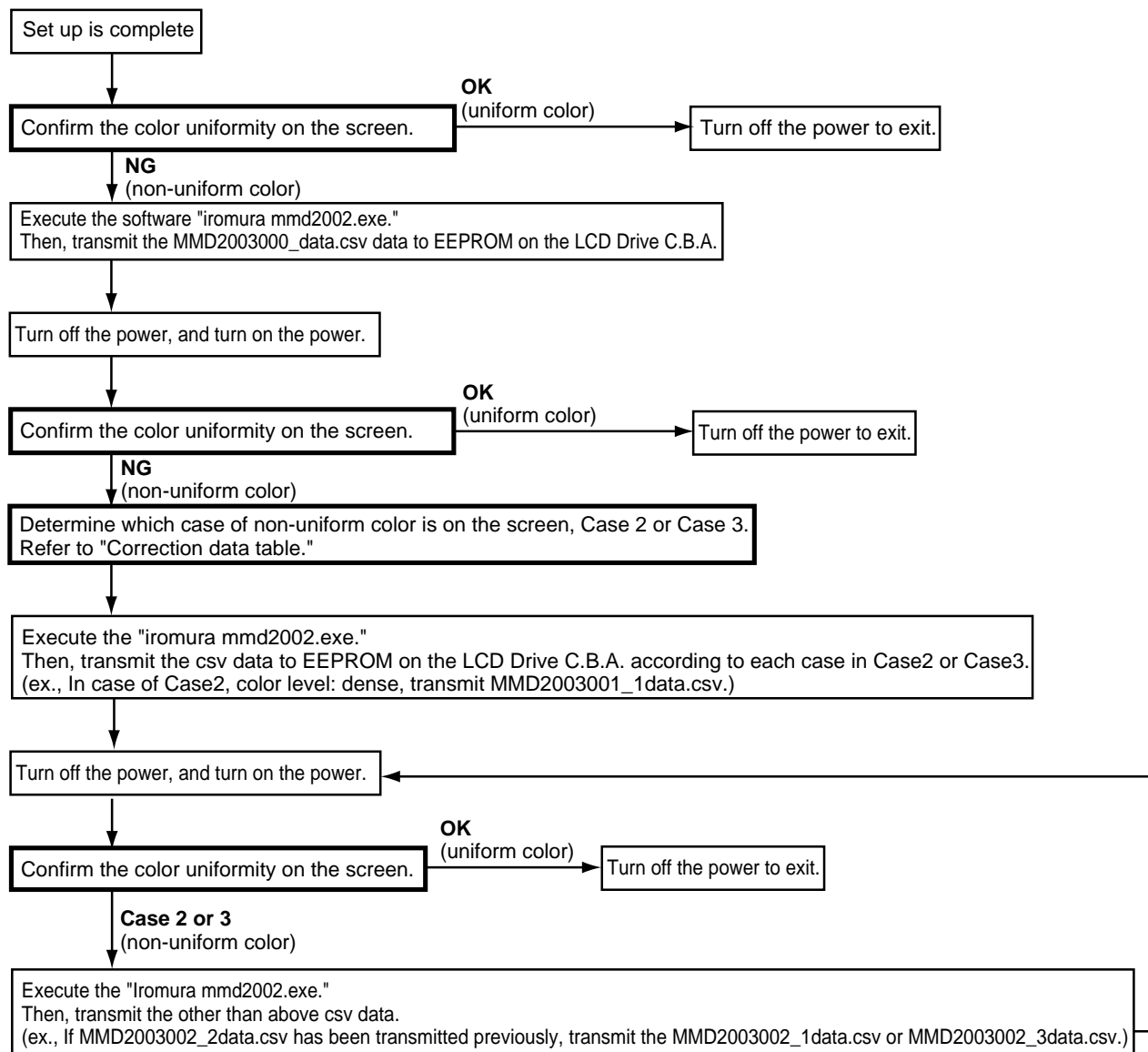
#### SET UP:

1. Connect the PC (1) and P2301 on the LCD Drive C.B.A. with the RS232C I/F Tool and the D-Sub 9 Pin Serial (RS232C) Cable.
2. Install the software (3) into the PC(1).
  - 1) Copy the "iromura (8 items)" folder to any drive.

Application software	files
Software (3): Iromura	iromura mmd2002.exe MMD2003000_data.csv MMD2003001_1data.csv MMD2003001_2data.csv MMD2003001_3data.csv MMD2003002_1data.csv MMD2003002_2data.csv MMD2003002_3data.csv

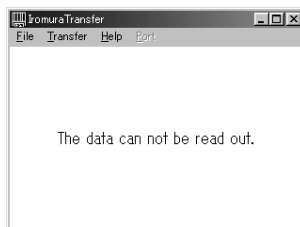
3. To start up the software (2), execute the "iromura mmd2002.exe" by double clicking.
4. Set to PC mode by pressing TV/VIDEO key on the remote.
5. Supply 50% White Pattern Signal: "9 Gray" in "1 Color" from PC(2).
6. Set the FULL mode by pressing ASPECT key.

#### PROCEDURES:

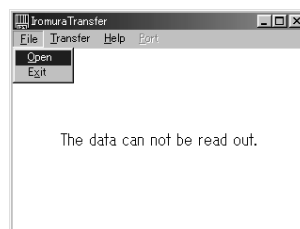


## How to transfer the csv data (correction data) using the software (3):

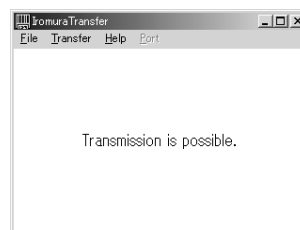
1. Execute the "Iromura mmd2002.exe" file by double click.



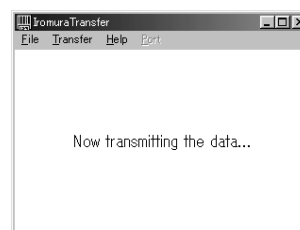
2. Select "Open" on File menu.



3. Select the desired csv data file (MMD2003000\_data.csv, MMD2003001\_1data.csv, etc.). The following dialog will appear.

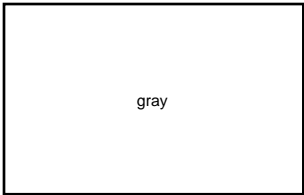




4. Select "Start" on Transfer menu. The transmission starts, and the data transmission takes for approx. 20 seconds. The data will be stored in the EEPROM.

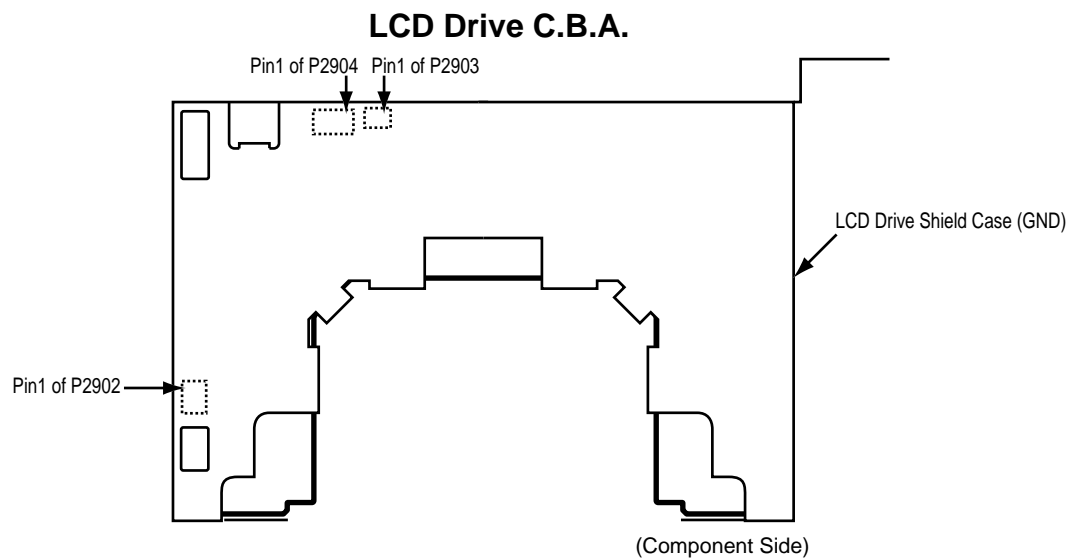


5. "End" will appear on a PC Monitor after transmission.

## &lt;Correction data table&gt;

	Non-uniform color <on screen>	color level	csv data file
<b>Case1</b>		uniformity color	MMD2003000_data.csv
<b>Case2</b>		dense	MMD2003001_1data.csv
		denser	MMD2003001_2data.csv
		densest	MMD2003001_3data.csv
<b>Case3</b>		dense	MMD2003002_1data.csv
		denser	MMD2003002_2data.csv
		densest	MMD2003002_3data.csv

## TEST POINTS AND LOCATION



### Test Point Information

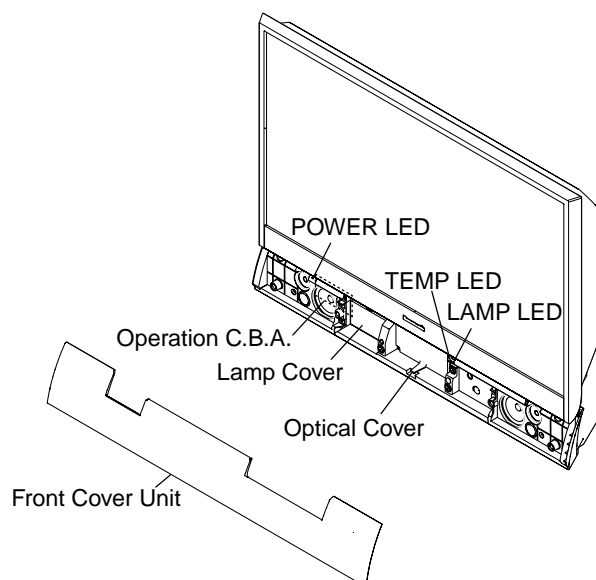
- Test Point with a Test Pin.
- ① Test Point with a jumper wire across a hole in the P.C.B.
- Test Point with no Test Pin.
- Test Point with a Hook.

# 10 TROUBLESHOOTING HINTS

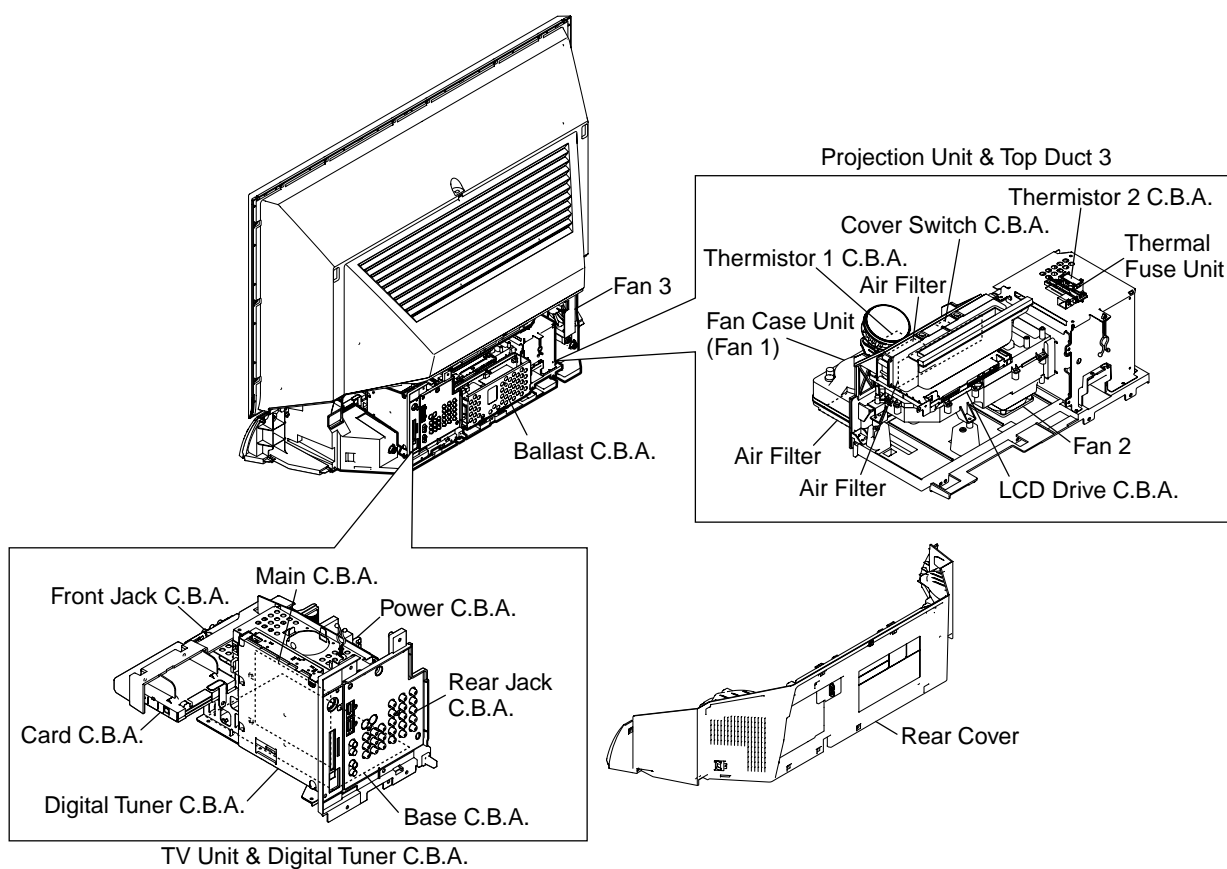
## 10.1. TROUBLESHOOTING HINTS FOR BLOCK LEVEL REPAIR

### MAIN PARTS LOCATION

<Front View>



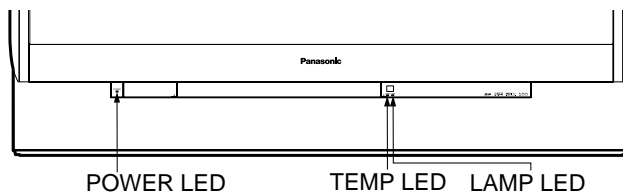
<Rear View>



## LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.

When an error is detected, the Lamp comes off and the LED on the front will flash.



Error No.	Error Information	POWER LED	TEMP LED	LAMP LED	(Note 2)	(Note 3)
					OSD	LAMP OFF
1)	Fan1, Fan2 or Fan3 stopped	flashes orange once every 5 seconds	-	-		○
2)	Lamp Cover open	flashes orange twice every 5 seconds	-	-		○
3)	Temperature Sensor shorted or open (Thermistor 1 C.B.A.)	-	flashes once every 5 seconds	-		○
4)	Abnormal Temperature (Thermistor 1 C.B.A.)	-	flashes twice every 5 seconds	-		○
5)	Ballast Error (abnormal Lamp or Ballast)	-	-	flashes once every 5 seconds		○
6)	Ballast Error (abnormal Lamp voltage)	-	-	flashes twice every 5 seconds		○
7)	Ballast Error (abnormal temperature)	-	-	flashes 3 times every 5 seconds		○
8)	Ballast Error (other causes)	-	-	flashes 4 times every 5 seconds		○
9)	Abnormal Voltage (+17V, +9V, +5V line) for LCD Drive C.B.A.	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
10)	Temperature Sensor shorted or open (Thermistor 2 C.B.A.)	-	flashes 3 times every 5 seconds	-		○
11)	Abnormal Temperature (Thermistor 2 C.B.A.)	-	flashes 4 times every 5 seconds	-		○
12)	Clogged air filter	-	flashes 5 times every 5 seconds	-	○	○

### Note:

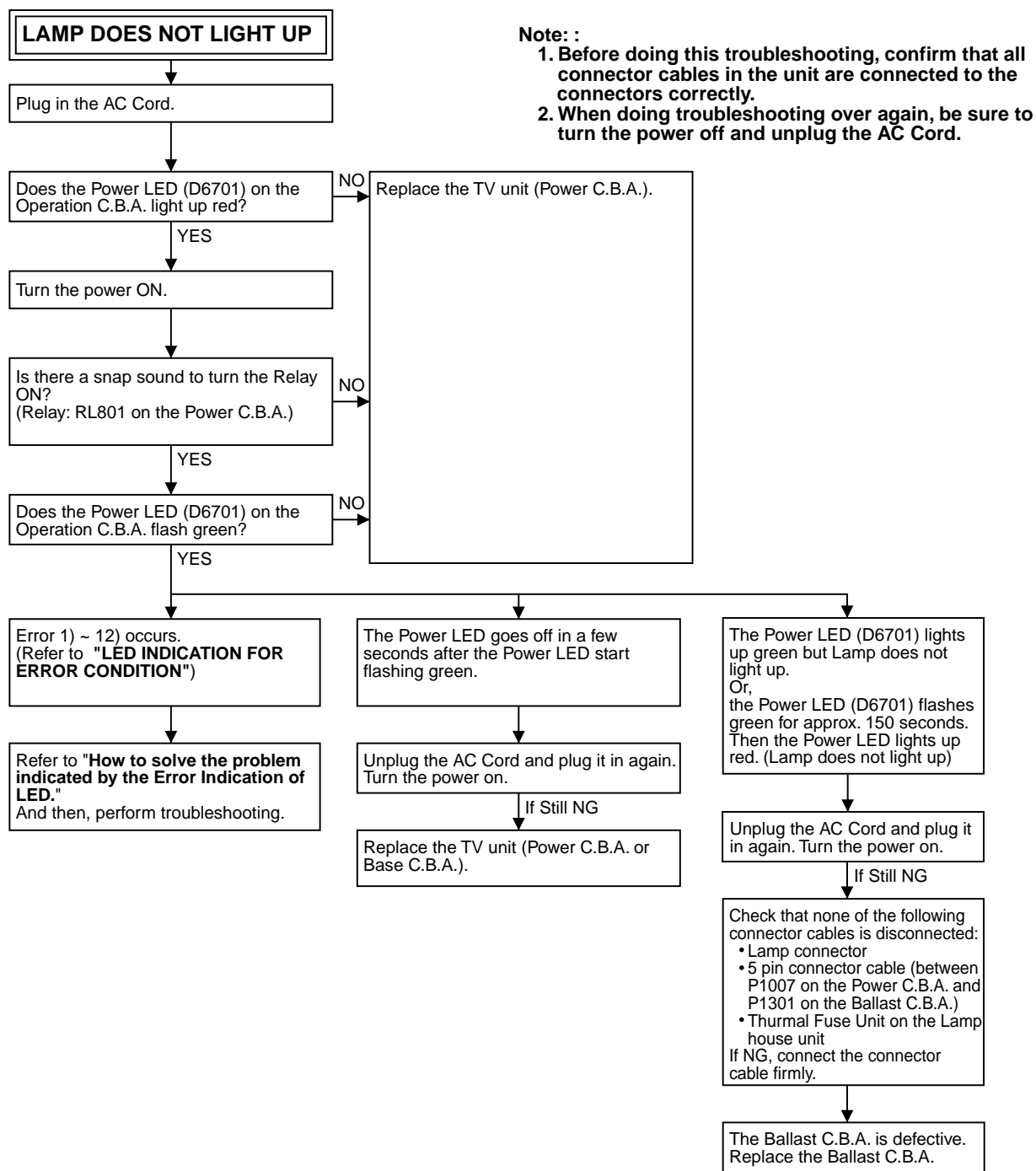
1. When two or more errors have occurred at the same time, the LED will alternate flash patterns as shown above every 5 seconds.
2. Warning OSD appears when the air filter is clogged.
3. LAMP OFF: The LED will flash immediately after the Lamp comes off.

## How to solve the problem indicated by the Error Indication of LED

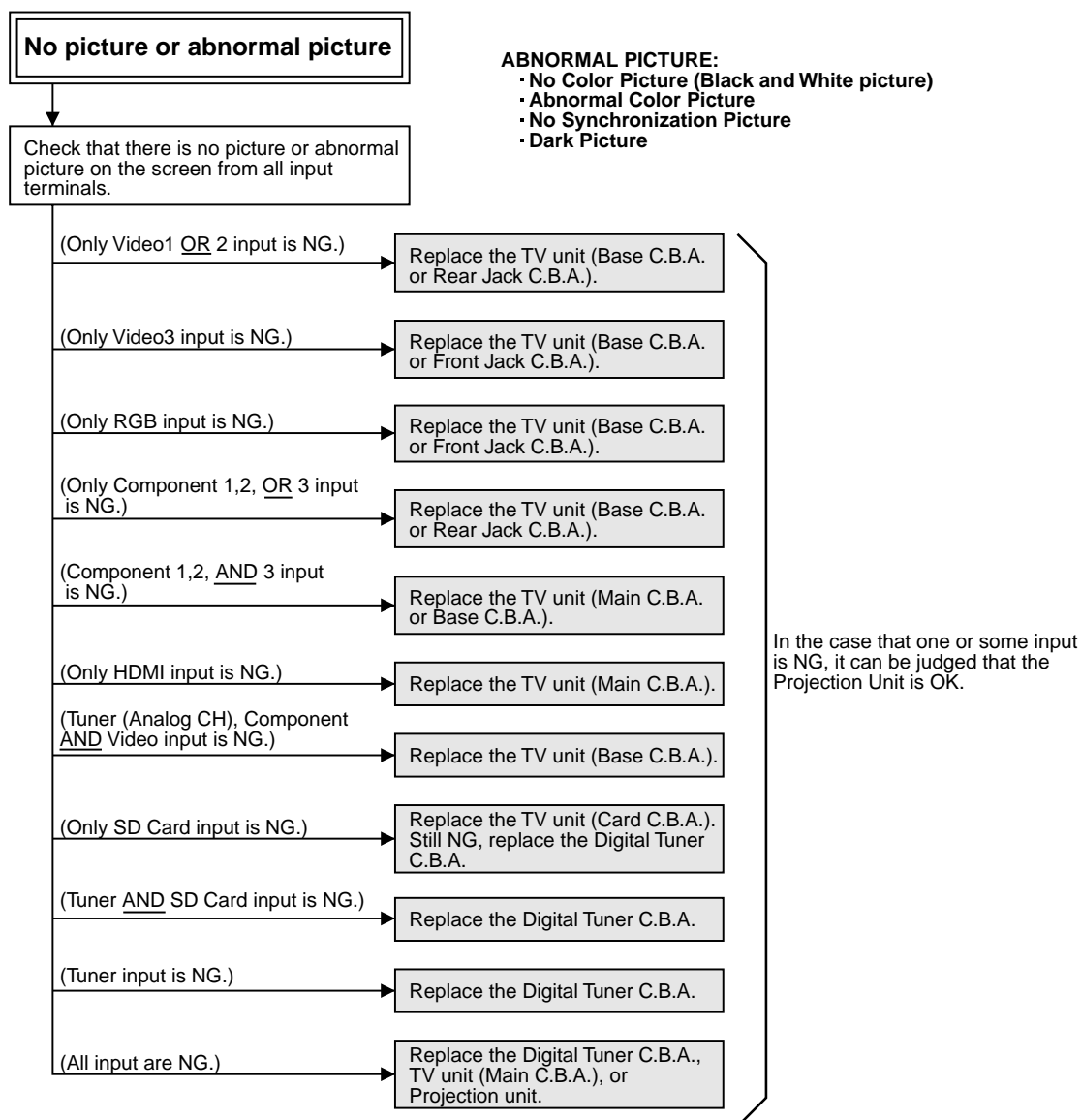
(All symptom is that Lamp turns off or Lamp does not light up)

**Note:** Before performing the troubleshooting, confirm that all connector cables in the unit are connected to connectors correctly.

Error No.	Problem	Possible Solution
1)	Cooling Fan (Fan1, Fan2 and/or Fan3) malfunction.	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">           Are the Fan1, Fan2 and Fan3 operating?         </div> <div> <p>NO → Replace the TV unit (Power C.B.A. or Base C.B.A.). Still NG, replace the Projection Unit.</p> <p>Only the Fan1 stops. → Replace the Projection Unit.</p> <p>Only the Fan2 stops. → Replace the Projection Unit.</p> <p>Only the Fan3 stops. → Replace the Fan3.</p> </div> </div>
2)	Mis-installed the Lamp Cover (the Lamp cover is open).	<ol style="list-style-type: none"> <li>1. Tighten the screw of the Lamp Cover.</li> <li>2. If still NG, replace the Cover SW (SW2911) on the Cover Switch C.B.A.</li> <li>3. If still NG, replace the TV unit (Main C.B.A.).</li> </ol>
3)	The temperature sensor (R2811) on the Thermistor 1 C.B.A. on the Fan 1 is short or open.	<p>Remove P2302 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2811 on the Thermistor 1 C.B.A. is <math>5k\Omega \sim 200k\Omega</math>. If NG, replace the Temperature Sensor (R2811) on the Thermistor 1 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.</p> <p><b>Note:</b> The Projection Unit includes LCD Drive C.B.A.</p>
4)	It indicates when the temperature detected by the Temperature Sensor (R2811) on Thermistor 1 C.B.A. exceeds 55 °C (131 °F). 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	<ol style="list-style-type: none"> <li>1. Relocate the unit to a proper location.             <ul style="list-style-type: none"> <li>• Do not place in direct sunlight and other sources of direct heat.</li> <li>• Do not place the unit in humid or dusty location, or areas exposed to smoke or steam. (surrounding temperature should be between 0 °C (32 °F) and 40 °C (104 °F) and humidity should be between 20 % and 80 % (with no condensation).)</li> <li>• The vents are not blocked. It is recommended that a gap of at least 10 cm is left all around the unit even when it is placed inside a cabinet or between shelves.</li> </ul> </li> <li>2. Check if the fans are operating properly.</li> </ol>
5)	<ol style="list-style-type: none"> <li>1. The Lamp is not cooled off.</li> <li>2. Thermal Fuse Unit (115 °C (239 °F)) is defective (open).</li> <li>3. The Lamp is defective (crack).</li> <li>4. The Lamp voltage becomes more over 130V or less than 30V.</li> <li>5. The Ballast C.B.A. is defective.</li> <li>6. The Main C.B.A. is defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm that the Thermal Fuse Unit (115 °C (239 °F)) on the Lamp House is not open.</li> <li>2. Wait until the Lamp is cooled off and try to turn the power back on. If same error LED indication continues, remove the Lamp and visually inspect it. If it is cracked, it must be replaced. If the Lamp is not cracked, replace the Ballast C.B.A.</li> <li>3. If still NG, replace the TV unit (Main C.B.A.).</li> </ol>
6)	The Lamp is defective (short of the Lamp).	Replace the Lamp.
7)	Thermal fuse (F1302) 117 °C (243 °F) on the Ballast C.B.A. is open due to abnormal temperature rise.	Replace the Ballast C.B.A.
8)	The Ballast C.B.A. is defective.	If the Lamp does not light up after attempting turning on the power 2 or 3 times, replace the Ballast C.B.A.
9)	<ol style="list-style-type: none"> <li>1. +17V line on the LCD Drive C.B.A. error.</li> <li>2. +9V line on the LCD Drive C.B.A. error.</li> <li>3. +5V line on the LCD Drive C.B.A. error.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the TV unit (Power C.B.A. or Base C.B.A.).</li> <li>2. If still NG, replace the Projection Unit (LCD Drive C.B.A.).</li> </ol>
10)	The temperature sensor (R2821) on the Thermistor 2 C.B.A. on the Lamp House is short or open.	<p>Remove P2303 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2821 on the Thermistor 2 C.B.A. is <math>5k\Omega \sim 1M\Omega</math>. If NG, replace the Temperature Sensor (R2821) on the Thermistor 2 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A.</p> <p><b>Note:</b> The Projection Unit includes LCD Drive C.B.A.</p>
11)	It indicates when the temperature detected by the Temperature Sensor (R2821) on Thermistor 2 C.B.A. exceeds 105 °C (221 °F). 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	<ol style="list-style-type: none"> <li>1. Relocate the unit to a proper location.             <ul style="list-style-type: none"> <li>• Do not place in direct sunlight and other sources of direct heat.</li> <li>• Do not place the unit in humid or dusty location, or areas exposed to smoke or steam. (surrounding temperature should be between 0 °C (32 °F) and 40 °C (104 °F) and humidity should be between 20 % and 80 % (with no condensation).)</li> <li>• The vents are not blocked. It is recommended that a gap of at least 10 cm is left all around the unit even when it is placed inside a cabinet or between shelves.</li> </ul> </li> <li>2. Check if the fans are operating properly.</li> </ol>
12)	Clogged air filter of the Fan Case Unit.	<ol style="list-style-type: none"> <li>1. Cleaning the Air Filter on the Projection Unit.</li> <li>2. If still NG, replace the Projection Unit.</li> <li>3. If still NG, replace the TV unit (Main C.B.A.).</li> </ol>







### No sound from built-in both L-CH and R-CH Speakers

Check that there is an audio signal to the Audio Out Terminal from all input terminals.

(All input are NG.)

Replace the TV unit (Base C.B.A.).

(Only Audio1, 2, Component 1, 2, OR 3 input is NG.)

Replace the TV unit (Base C.B.A. or Rear Jack C.B.A.).

(Only Audio3 input is NG.)

Replace the TV unit (Base C.B.A. or Front Jack C.B.A.).

(Only Tuner input is NG.)

Replace the Digital Tuner C.B.A. Still NG, replace the TV unit (Base C.B.A. or Main C.B.A.).

(Only HDMI input is NG.)

Replace the TV unit (Base C.B.A. or Main C.B.A.).

OK

Replace the TV unit (Base C.B.A. or Power C.B.A.).

### No sound from built-in L-CH Speaker only

Press "MENU" button on the remote and select "Audio" in MENU screen. Then press "OK."

Does the "BALANCE" screen becomes center position?

NO

Set to the center position.

Still NG

Swap the Speaker Connectors to confirm the Speaker failure.

YES

Replace the L-CH Speaker.

NO

Replace the TV Unit (Base C.B.A. or Main C.B.A.).

### No sound from built-in R-CH Speaker only

Press "MENU" button on the remote and select "Audio" in MENU screen. Then press "OK."

Does the "BALANCE" screen becomes center position?

NO

Set to the center position.

Still NG

Swap the Speaker Connectors to confirm the Speaker failure.

YES

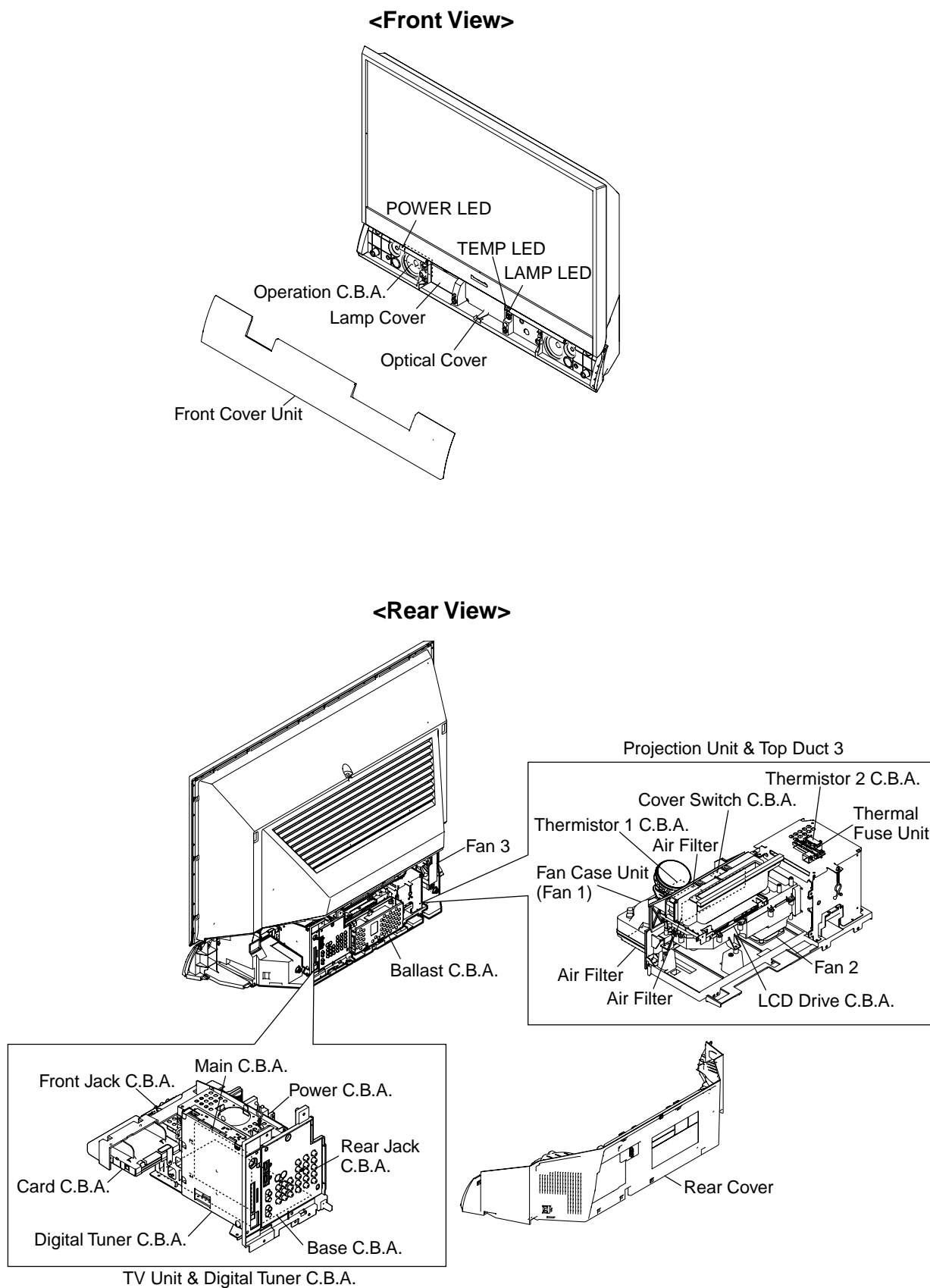
Replace the R-CH Speaker.

NO

Replace the TV Unit (Base C.B.A. or Main C.B.A.).

## 10.2. TROUBLESHOOTING HINTS FOR COMPONENT LEVEL REPAIR

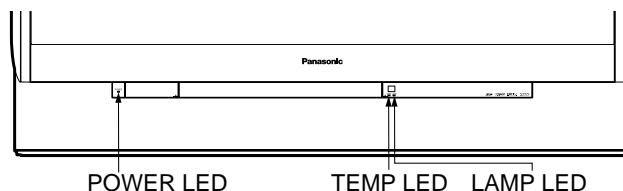
### MAIN PARTS LOCATION



## LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.

When an error is detected, the Lamp comes off and the LED on the front will flash.



Error No.	Error Information	POWER LED	TEMP LED	LAMP LED	(Note 2)	(Note 3)
					OSD	LAMP OFF
1)	Fan1, Fan2 or Fan3 stopped	flashes orange once every 5 seconds	-	-		○
2)	Lamp Cover open	flashes orange twice every 5 seconds	-	-		○
3)	Temperature Sensor shorted or open (Thermistor 1 C.B.A.)	-	flashes once every 5 seconds	-		○
4)	Abnormal Temperature (Thermistor 1 C.B.A.)	-	flashes twice every 5 seconds	-		○
5)	Ballast Error (abnormal Lamp or Ballast)	-	-	flashes once every 5 seconds		○
6)	Ballast Error (abnormal Lamp voltage)	-	-	flashes twice every 5 seconds		○
7)	Ballast Error (abnormal temperature)	-	-	flashes 3 times every 5 seconds		○
8)	Ballast Error (other causes)	-	-	flashes 4 times every 5 seconds		○
9)	Abnormal Voltage (+17V, +9V, +5V line) for LCD Drive C.B.A.	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
10)	Temperature Sensor shorted or open (Thermistor 2 C.B.A.)	-	flashes 3 times every 5 seconds	-		○
11)	Abnormal Temperature (Thermistor 2 C.B.A.)	-	flashes 4 times every 5 seconds	-		○
12)	Clogged air filter	-	flashes 5 times every 5 seconds	-	○	○

### Note:

1. When two or more errors have occurred at the same time, the LED will alternate flash patterns as shown above every 5 seconds.
2. Warning OSD appears when the air filter is clogged.
3. LAMP OFF: The LED will flash immediately after the Lamp comes off.

## How to solve the problem indicated by the Error Indication of LED

(Key symptom: Lamp does not light up or lights up but then goes out.)

**Note:** Before performing the troubleshooting, confirm that all connector cables in the unit are connected to connectors correctly.

Error No.	Problem	Possible Solution
1)	Cooling Fan (Fan1, Fan2 and/or Fan3) malfunction.	<p>1. Confirm that all connector cables are connected to the connectors correctly. 2. Check the following Fan lock signals.</p> <pre> graph TD     Start[1. Confirm that all connector cables are connected to the connectors correctly. 2. Check the following Fan lock signals.] --&gt; Step1[Check if the voltage between Pin 2 and Pin 3 of IC2902, IC2903, and IC2904 on the LCD Drive C.B.A. is approx. +9V.]     Step1 -- NO --&gt; Step1_1[Check the Power C.B.A. (+9V line) (Refer to "CHECKING THE POWER C.B.A.")]     Step1 -- YES --&gt; Step2[Check if the voltage between Pin 1 and Pin 2 of P2902, P2903, and P2904 on the LCD Drive C.B.A. is approx. +7V~+8V (FAN Input Voltage).]     Step2 -- YES --&gt; Step2_1[Check if the voltage at Pin 3 of P2902 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 1 lock (H))]     Step2_1 -- YES --&gt; Step2_1_1[Replace Fan Case Unit (including FAN1).]     Step2_1 -- NO --&gt; Step2_2[Check if the voltage at Pin 3 of P2903 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 2 lock (H))]     Step2_2 -- YES --&gt; Step2_2_1[Replace FAN 2.]     Step2_2 -- NO --&gt; Step2_3[Check if the voltage at Pin 3 of P2904 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 3 lock (H))]     Step2_3 -- YES --&gt; Step2_3_1[Replace FAN 3.]     Step2_3 -- NO --&gt; Step2_4[Check if the voltage at Pin 6 and 7 of IC2303 on the LCD Drive C.B.A. is approx. +3.3V.]     Step2_4 -- YES --&gt; Step2_4_1[Check the surrounding parts of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Step2_4_1 -- Still NG --&gt; Step2_4_2[Check the Base C.B.A. (+3.3V line) (Refer to "CHECKING THE TV UNIT")]     Step2_4_2 --&gt; Step2_5[Check if the voltage at Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. is High (approx. +3.3V).]     Step2_5 -- YES --&gt; Step2_5_1[Check the signal lines between Pin 5 of IC2902 (IC2903, IC2904) and Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Step2_5_1 --&gt; Step2_6[Check the signal line between Pin 3 of P2902 (P2903, P2904) and Pin 29, 30, 31 of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Step2_5 -- NO --&gt; Step2_4_1     Step2_4 -- NO --&gt; Step2_4_1     </pre> <p>Check if the voltage between Pin 2 and Pin 3 of IC2902, IC2903, and IC2904 on the LCD Drive C.B.A. is approx. +9V.</p> <p>Check if the voltage between Pin 1 and Pin 2 of P2902, P2903, and P2904 on the LCD Drive C.B.A. is approx. +7V~+8V (FAN Input Voltage).</p> <p>Check if the voltage between Pin 1 and Pin 3 of IC2902, IC2903, and IC2904 on the LCD Drive C.B.A. is more than +3.3V. (FAN ON (H))</p> <p>Check if the voltage between Pin 5 and Pin 3 of IC2902, IC2903, and IC2904 on the LCD Drive C.B.A. is approx. +0.8V~+2.6V (FAN Speed Control).</p> <p>Replace IC2902, IC2903, or IC2904.</p> <p>Check if the voltage at Pin 42 of IC2303 on the LCD Drive C.B.A. is approx. +3.3V.</p> <p>Check the signal line between Pin 1 of IC2902 (IC2903, IC2904) and Pin 42 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p> <p>Replace IC2303.</p> <p>Check if the voltage at Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. is High (approx. +3.3V).</p> <p>Check the signal lines between Pin 5 of IC2902 (IC2903, IC2904) and Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p> <p>Check the signal line between Pin 3 of P2902 (P2903, P2904) and Pin 29, 30, 31 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p> <p>Check the Power C.B.A. (+9V line) (Refer to "CHECKING THE POWER C.B.A.")</p> <p>Check if the voltage at Pin 3 of P2902 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 1 lock (H))</p> <p>Replace Fan Case Unit (including FAN1).</p> <p>Check if the voltage at Pin 3 of P2903 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 2 lock (H))</p> <p>Replace FAN 2.</p> <p>Check if the voltage at Pin 3 of P2904 on the LCD Drive C.B.A. is approx. 0 V. (Pin 3: FAN 3 lock (H))</p> <p>Replace FAN 3.</p> <p>Check if the voltage at Pin 6 and 7 of IC2303 on the LCD Drive C.B.A. is approx. +3.3V.</p> <p>Check the surrounding parts of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p> <p>Still NG</p> <p>Check the Base C.B.A. (+3.3V line) (Refer to "CHECKING THE TV UNIT")</p> <p>Check if the voltage at Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. is High (approx. +3.3V).</p> <p>Check the signal lines between Pin 5 of IC2902 (IC2903, IC2904) and Pin 23, 52, 63 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p> <p>Check the signal line between Pin 3 of P2902 (P2903, P2904) and Pin 29, 30, 31 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p>

## How to solve the problem indicated by the Error Indication of LED

Error No.	Problem	Possible Solution
2)	Mis-installed Lamp Cover (the Lamp Cover is open).	<p>Tighten the screw of the Lamp Cover Unit.</p> <p>↓ Still NG</p> <p>Check if the voltage at Pin 19 of IC6003 on the Main C.B.A. is approx. 0V. (Lamp Cover Open (H))</p> <p>YES → Replace IC6003.</p> <p>NO</p> <p>Check if the voltage at Pin 16 of P5701 on the Main C.B.A. is approx. 0V.</p> <p>YES → Check the signal line between Pin 19 of IC6003 and Pin 16 of P5701 and the surrounding parts on the Main C.B.A. Repair if necessary.</p> <p>NO</p> <p>Check if the voltage at Pin 16 of P2501 on the LCD Drive C.B.A. is approx. 0V.</p> <p>YES → Replace the 20-pin Cable (Ref. No. 14) between P5701 on the Main C.B.A. and P2501 on the LCD Drive C.B.A.</p> <p>NO</p> <p>Replace the Cover SW (SW2911) on the Cover Switch C.B.A.</p> <p>↓ Still NG</p> <p>Check the signal line between Pin 16 of P2501 and Pin 1 of P2502 on the LCD Drive C.B.A. Repair if necessary.</p>
3)	The Temperature Sensor (R2811) on the Thermistor 1 C.B.A. on Fan 1 is shorted or open.	<p>1. Confirm that all connector cables are connected to the connectors correctly.</p> <p>2. Check the following Temperature data lines.</p> <p>Remove P2302 connector on the LCD Drive C.B.A. and check if the resistance between Pin 1 and Pin 2 of P2811 on the Thermistor 1 C.B.A. is 5kΩ~200kΩ.</p> <p>NO → Replace the Temperature Sensor (R2811) on the Thermistor 1 C.B.A.</p> <p>YES</p> <p>Check if the voltage at Pin 2 of IC2303 on the LCD Drive C.B.A. is +0.1V~+3.2V (Temperature Data3).</p> <p>YES → Check IC2303 and the surrounding parts on the LCD Drive C.B.A. Repair if necessary.</p> <p>NO</p> <p>Check the signal line between Pin 2 of P2302 and Pin 2 of IC2303 on the LCD Drive C.B.A. Repair if necessary.</p>
4)	When the temperature detected by the Temperature Sensor (R2811) on Thermistor 1 C.B.A. exceeds 55 °C (131 °F), it will be indicated by LED. 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	<p>1. Relocate the unit to a proper location.</p> <ul style="list-style-type: none"> <li>Do not place in direct sunlight or other sources of direct heat.</li> <li>Do not place the unit in humid or dusty locations, or areas exposed to smoke or steam. (Surrounding temperature should be between 0 °C (32 °F) and 40 °C (104 °F) and humidity should be between 20 % and 80 % with no condensation.)</li> <li>Ensure that the vents are not blocked.</li> </ul> <p>It is recommended that a gap of at least 10 cm be left all around the unit even when it is placed inside a cabinet or between shelves.</p> <p>2. Check if the fans are operating properly.</p>
5)	1. The Lamp does not cool off. 2. Thermal Fuse Unit (115 °C (239 °F)) is defective (open). 3. The Lamp is defective (cracked). 4. The Lamp voltage becomes more than 130V or less than 30V. 5. The Ballast C.B.A. is defective. 6. The Main C.B.A. is defective.	<p>1. Confirm that the Thermal Fuse Unit (115 °C(239 °F)) on the Lamp House is not open.</p> <p>2. Wait until the Lamp cools off and try to turn the power back on. If same error LED indication continues, remove the Lamp and visually inspect it. If it is cracked, it must be replaced. If the Lamp is not cracked, check the Ballast C.B.A. (Refer to "CHECKING THE BALLAST C.B.A.")</p> <p>3. If still NG, replace the Main C.B.A.</p>
6)	Lamp voltage is not correct due to short of the Lamp.	<p>1. Wait until the Lamp cools off.</p> <p>2. Replace the Lamp.</p>
7)	Thermal fuse (F1302) on the Ballast C.B.A. is open due to abnormal temperature rise over 117 °C (243 °F).	Check the Ballast C.B.A. (Refer to "CHECKING THE BALLAST C.B.A.")
8)	The Ballast C.B.A. is defective.	If the Lamp does not light up after 2 or 3 attempts to turn on the power, check the Ballast C.B.A. (Refer to "CHECKING THE BALLAST C.B.A.")

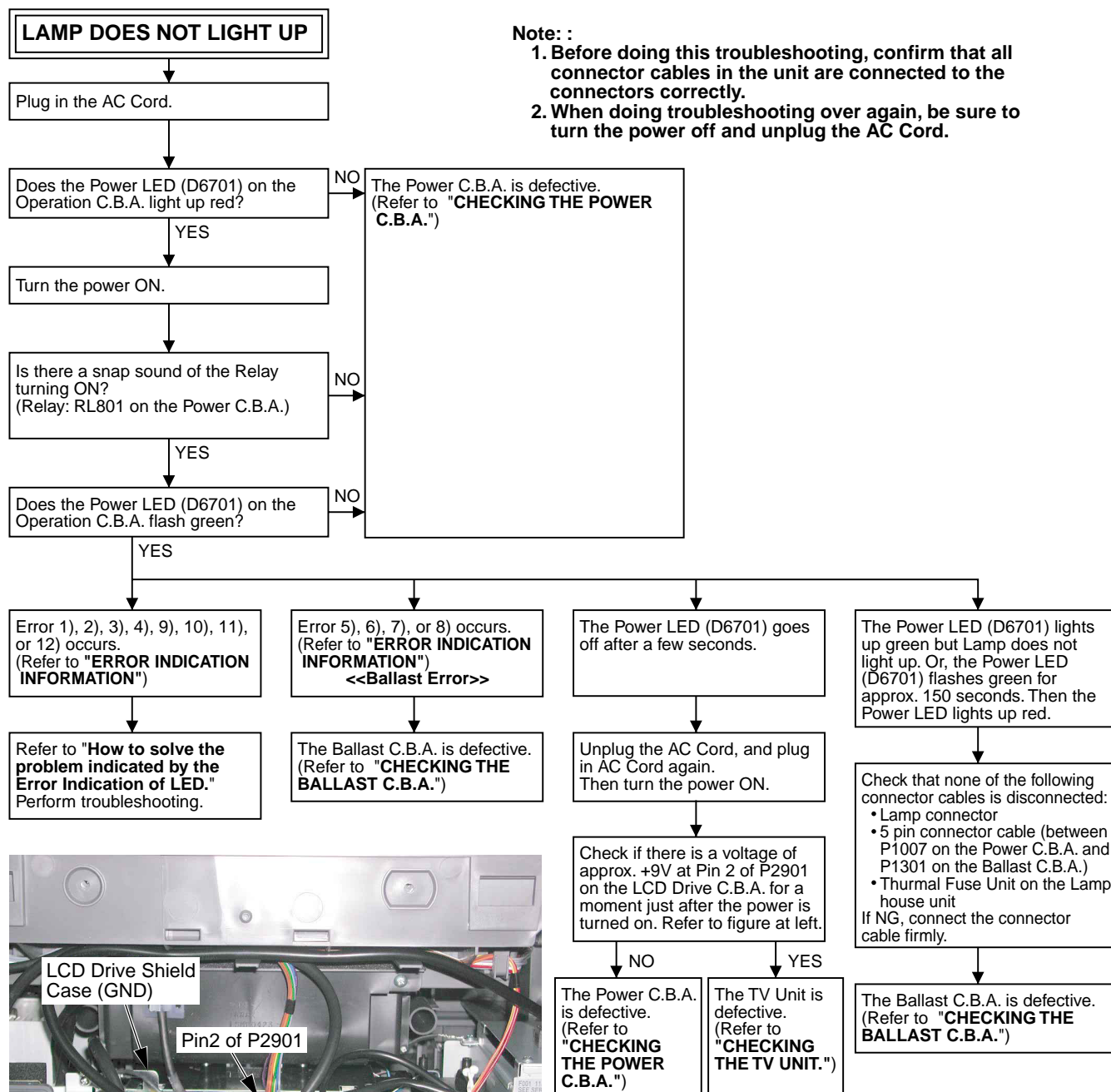
## How to solve the problem indicated by the Error Indication of LED

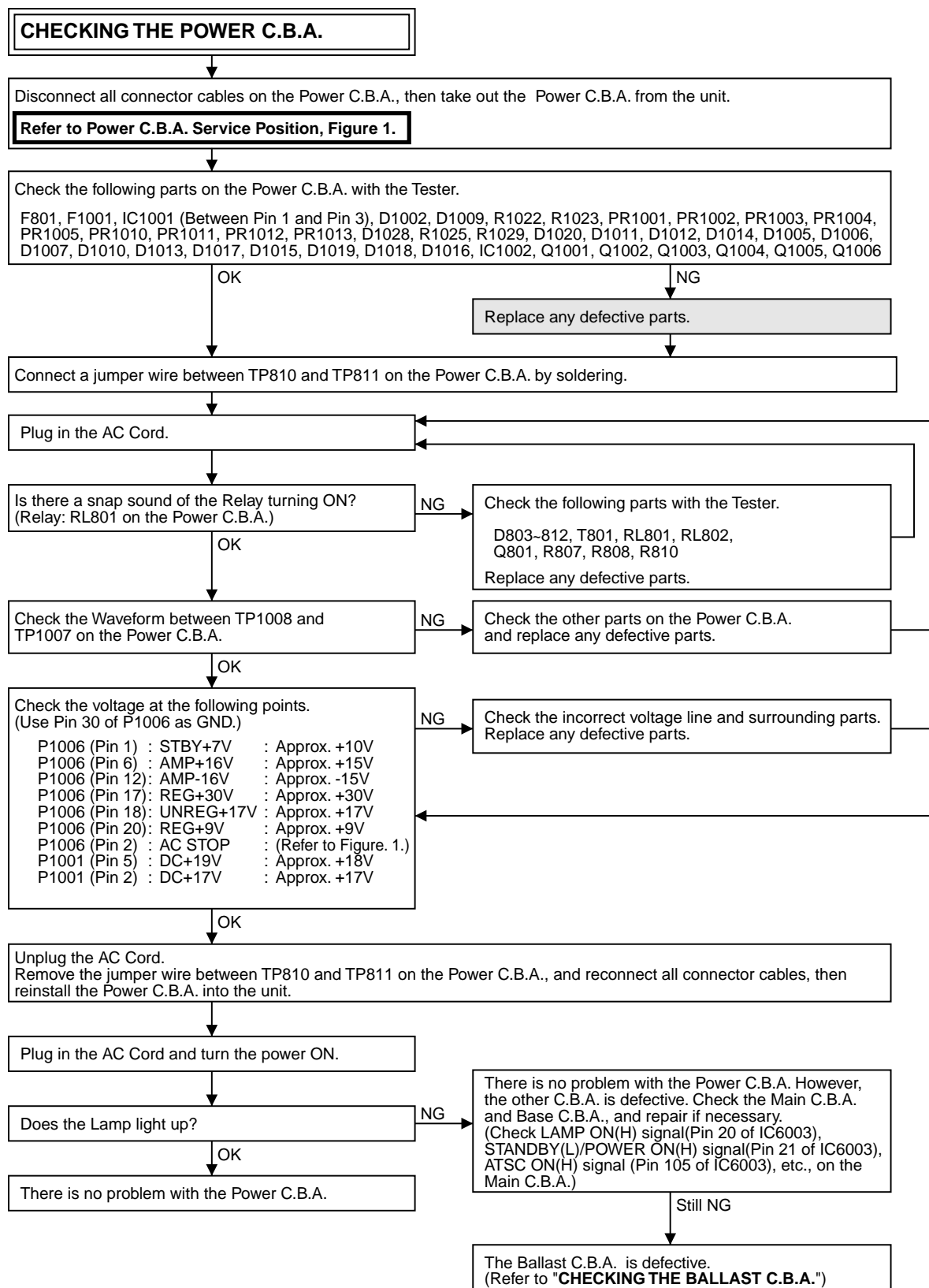
Error No.	Problem	Possible Solution
9)	1. Low voltage on +17V line for the LCD Drive C.B.A. 2. Low voltage on +9V line for the LCD Drive C.B.A. 3. Low voltage on +5V line for the LCD Drive C.B.A.	<p>1. Low voltage on +17V line for the LCD Drive C.B.A.</p> <pre> graph TD     Q1[Is the voltage at Pin 1 of P2901 on the LCD Drive C.B.A. approx. +17V?] -- YES --&gt; A1[Check if the voltage at Pin 60 of IC2303 on the LCD Drive C.B.A. is +12V more over.]     Q1 -- NO --&gt; Q2[Check if there is a voltage of approx. +17V at Pin 1 of P2901 on the LCD Drive C.B.A. for a moment just after the power is turned on.]     Q2 -- YES --&gt; A2[Check the surrounding parts at Pin 60 of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Q2 -- NO --&gt; Q3[Disconnect connector cable from P2901 on the LCD Drive C.B.A. and check the resistance between Pin 1 and Pin 8 of P1102 on the Base C.B.A.]     Q3 -- NO Short-circuit --&gt; A3[Check +17V line on the LCD Drive C.B.A. Repair if necessary.]     Q3 -- NO Short-circuit --&gt; A4[Check +17V voltage line on the Base C.B.A. Repair if necessary.]     Q3 -- short-circuit --&gt; Q4[Remove the Power C.B.A. from the Base C.B.A. and check the resistance between Pin 18 and Pin 30 of P1006 on the Power C.B.A.]     Q4 -- NO Short-circuit --&gt; A4     Q4 -- short-circuit --&gt; A5[Check +17V voltage line on the Power C.B.A. Repair if necessary. (Refer to "CHECKING THE POWER C.B.A.")]           </pre> <p>2. Low voltage on +9V line for the LCD Drive C.B.A.</p> <pre> graph TD     Q6[Is the voltage at Pin 2 of P2901 on the LCD Drive C.B.A. approx. +17V?] -- YES --&gt; A6[Check if the voltage at Pin 59 of IC2303 on the LCD Drive C.B.A. is +8V more over.]     Q6 -- NO --&gt; Q7[Check if there is a voltage of approx. +11V at Pin 2 of P2901 on the LCD Drive C.B.A. for a moment just after the power is turned on.]     Q7 -- YES --&gt; A7[Check the surrounding parts at Pin 59 of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Q7 -- NO --&gt; Q8[Disconnect connector cable from P2901 on the LCD Drive C.B.A. and check the resistance between Pin 2 and Pin 8 of P1102 on the Base C.B.A.]     Q8 -- NO Short-circuit --&gt; A8[Check +11V line on the LCD Drive C.B.A. Repair if necessary.]     Q8 -- NO Short-circuit --&gt; A9[Check +11V voltage line on the Base C.B.A. Repair if necessary.]     Q8 -- short-circuit --&gt; Q9[Remove the Power C.B.A. from the Base C.B.A. and check the resistance between Pin 20 and Pin 30 of P1006 on the Power C.B.A.]     Q9 -- NO Short-circuit --&gt; A9     Q9 -- short-circuit --&gt; A10[Check +11V voltage line on the Power C.B.A. Repair if necessary. (Refer to "CHECKING THE POWER C.B.A.")]           </pre> <p>3. Low voltage on +5V line for the LCD Drive C.B.A.</p> <pre> graph TD     Q10[Is the voltage at Pin 3 of P2901 on the LCD Drive C.B.A. approx. +5V?] -- YES --&gt; A10[Check if the voltage at Pin 4 of IC2303 on the LCD Drive C.B.A. is +2.5V more over.]     Q10 -- NO --&gt; Q11[Check if there is a voltage of approx. +5V at Pin 3 of P2901 on the LCD Drive C.B.A. for a moment just after the power is turned on.]     Q11 -- YES --&gt; A11[Check the surrounding parts at Pin 4 of IC2303 on the LCD Drive C.B.A. Repair if necessary.]     Q11 -- NO --&gt; A12[Check +5V voltage line on the Base C.B.A. Repair if necessary. (Refer to "CHECKING THE TV UNIT")]     A10 -- NO --&gt; A12     A10 -- YES --&gt; A13[Replace IC2303 on the LCD Drive C.B.A.]     A11 -- YES --&gt; A13           </pre>

## How to solve the problem indicated by the Error Indication of LED

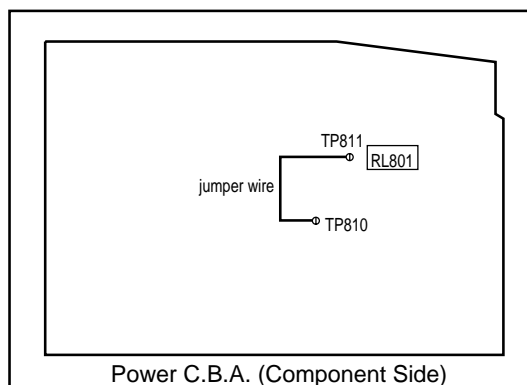
Error No.	Problem	Possible Solution
10)	The Temperature Sensor (R2821) on the Thermistor 2 C.B.A. on the Lamp House is shorted or open.	<p>1. Confirm that all connector cables are connected to the connectors correctly.</p> <p>2. Check the following Temperature data lines.</p> <pre> graph TD     A[Remove the P2303 connector on the LCD Drive C.B.A., and check if the resistance between Pin 1 and Pin 2 of P2821 on the Thermistor 2 C.B.A. is 5kΩ~1MΩ.] -- NO --&gt; B[Replace the Temperature Sensor (R2821) on the Thermistor 2 C.B.A.]     A -- YES --&gt; C[Check if the voltage at Pin 64 of IC2303 on the LCD Drive C.B.A. is +0.1V~+3.2V (Temperature Data1).]     C -- YES --&gt; D[Check IC2303 and the surrounding parts on the LCD Drive C.B.A. Repair if necessary.]     C -- NO --&gt; E[Check the signal line between Pin 2 of P2303 and Pin 64 of IC2303 on the LCD Drive C.B.A. Repair if necessary.] </pre>
11)	When the temperature detected by the Temperature Sensor (R2821) on Thermistor 2 C.B.A. exceeds 105 °C (221 °F), it will be indicated by LED. 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	<p>1. Relocate the unit to a proper location.</p> <ul style="list-style-type: none"> <li>Do not place in direct sunlight and other sources of direct heat.</li> <li>Do not place the unit in humid or dusty locations, or areas exposed to smoke or steam. (Surrounding temperature should be between 0 °C (32 °F) and 40 °C (104 °F) and humidity should be between 20 % and 80 % with no condensation.)</li> <li>Ensure that the vents are not blocked.</li> </ul> <p>It is recommended that a gap of at least 10 cm be left all around the unit even when it is placed inside a cabinet or between shelves.</p> <p>2. Check if the fans are operating properly.</p>
12)	Clogged Air Filter.	<pre> graph TD     A[Clean the Air Filter on the Projection Unit.] -- Still NG --&gt; B[Replace the Fan Case Unit (including FAN1).]     B -- Still NG --&gt; C[Check if the voltage at Pin 18 of P5701 on the Main C.B.A. is approx. +1.4V.]     C -- YES --&gt; D[Check if the voltage at Pin 93 of IC6003 on the Main C.B.A. is approx. +1.4V.]     D -- YES --&gt; E[Check IC6003 and the surrounding parts on the Main C.B.A. Repair if necessary.]     D -- NO --&gt; F[Check the signal line between Pin 18 of P5701 and Pin 93 of IC6003 and the surrounding parts on the Main C.B.A. Repair if necessary.]     C -- NO --&gt; G[Check if the voltage at Pin 18 of P2501 on the LCD Drive C.B.A. is approx. +1.4V.]     G -- YES --&gt; H[Replace the 20-pin Cable (Ref. No. 14) connecting P5701 on the Main C.B.A. and P2501 on the LCD Drive C.B.A.]     G -- NO --&gt; I[Check the signal line between Pin 18 of P2501 and Pin 2 of P2902 and the surrounding parts on the LCD Drive C.B.A. Repair if necessary.] </pre>



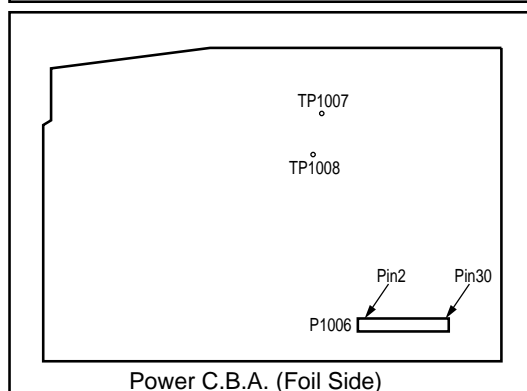




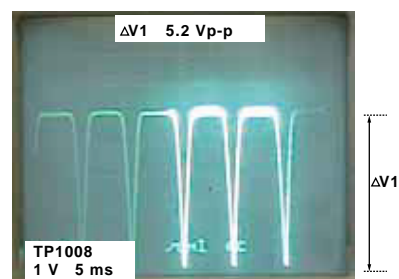
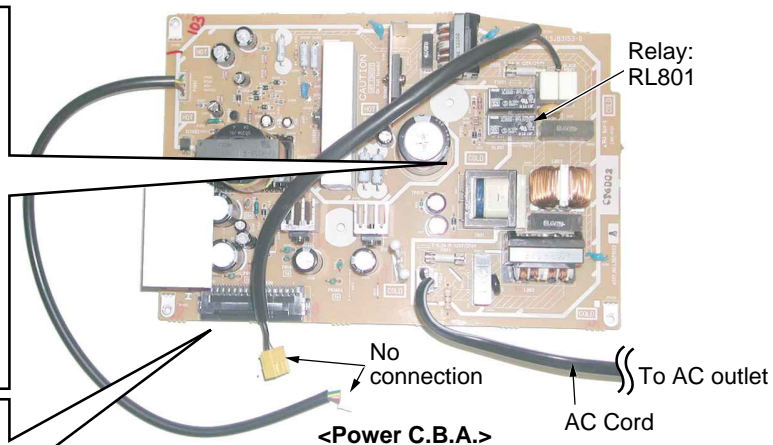
## Power C.B.A. Service Position



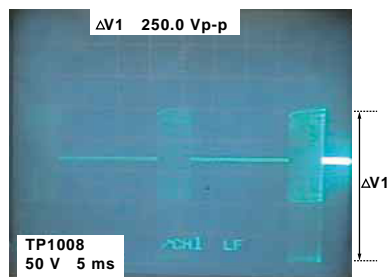
Power C.B.A. (Component Side)



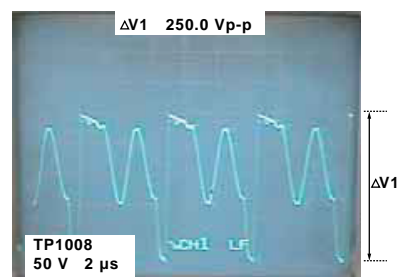
Power C.B.A. (Foil Side)



&lt;Waveform between Pin2 and Pin30 at P1006&gt;



&lt;Waveform between TP1007 and TP1008&gt;



&lt;Waveform between TP1007 and TP1008&gt;

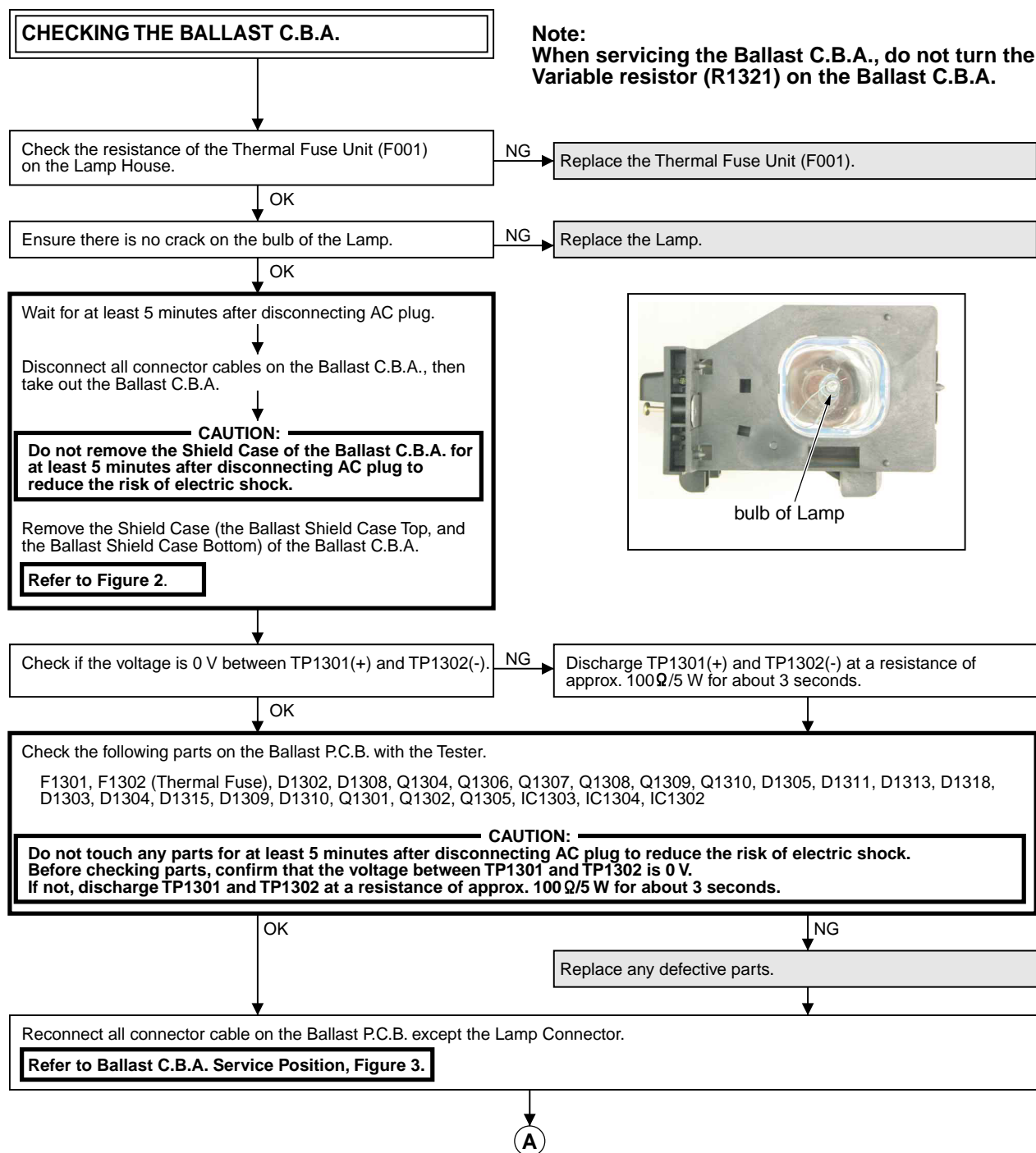
Figure. 1

## Resistance for Power Line of Power C.B.A.

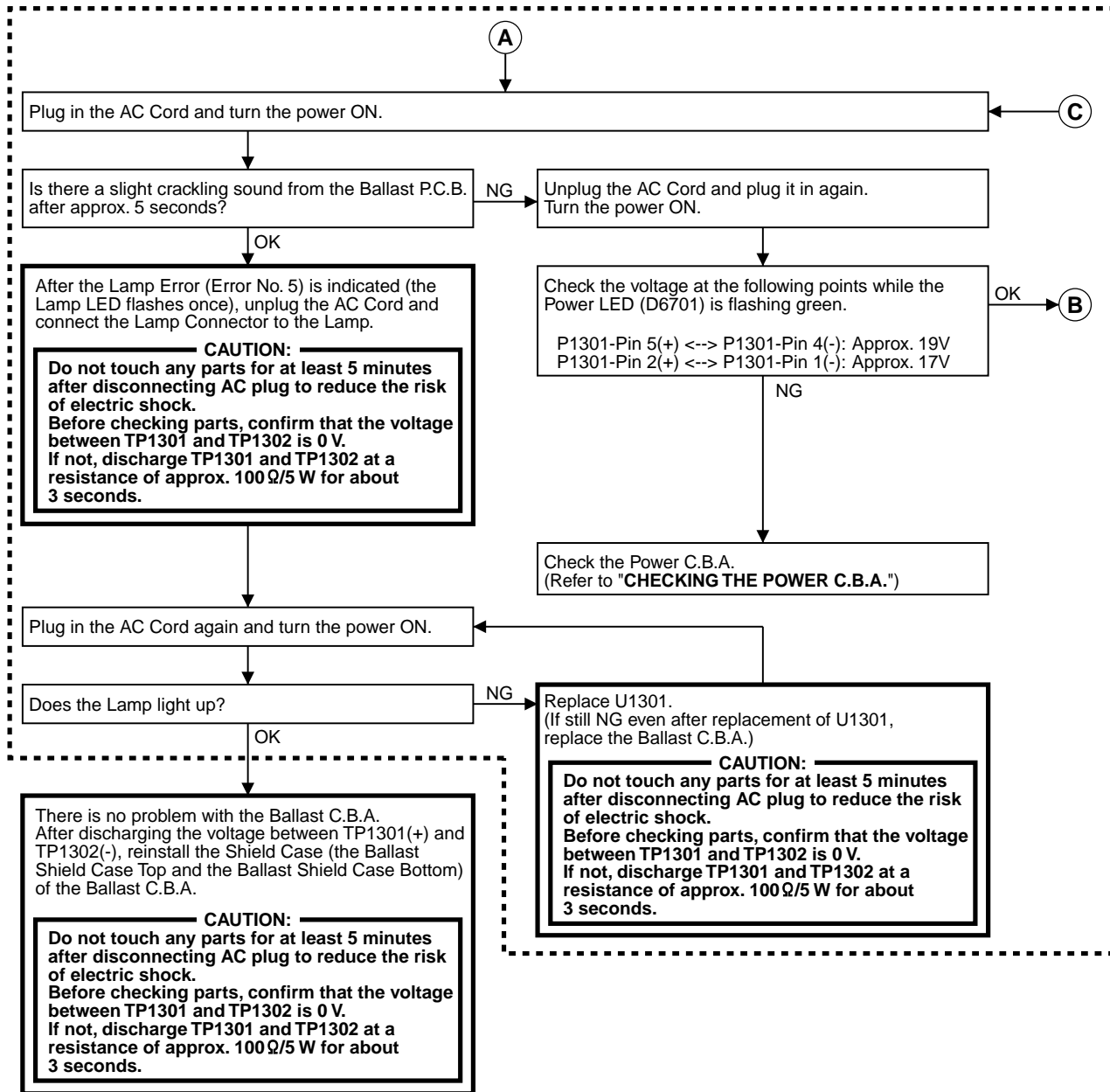
Power Line	Check Point	Resistance
REG 30V	TP1001	More than 50 ohms
STBY 7V	TP803	More than 50 ohms
REG 9V	TP1012	More than 50 ohms
UNREG 17V	TP1002	More than 50 ohms
AMP +16V	TP1009	More than 50 ohms
AMP -16V	TP1011	More than 50 ohms

**Note: When measuring the resistance of above points on Power C.B.A.:**

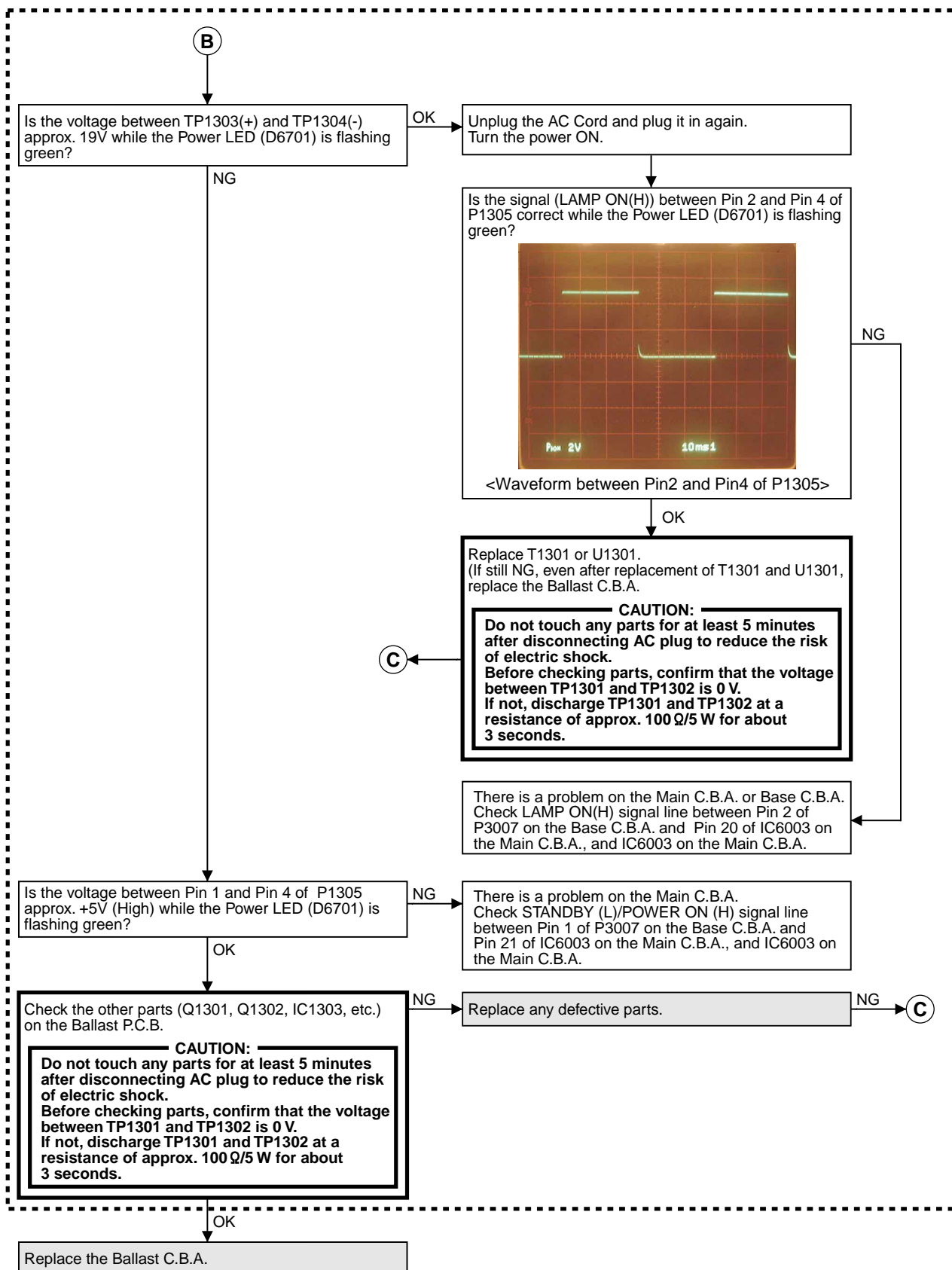
1. Turn off the unit and unplug the AC Cord.
2. Disconnect all connector cables of Power C.B.A.
3. Use TP1010 as a Ground.

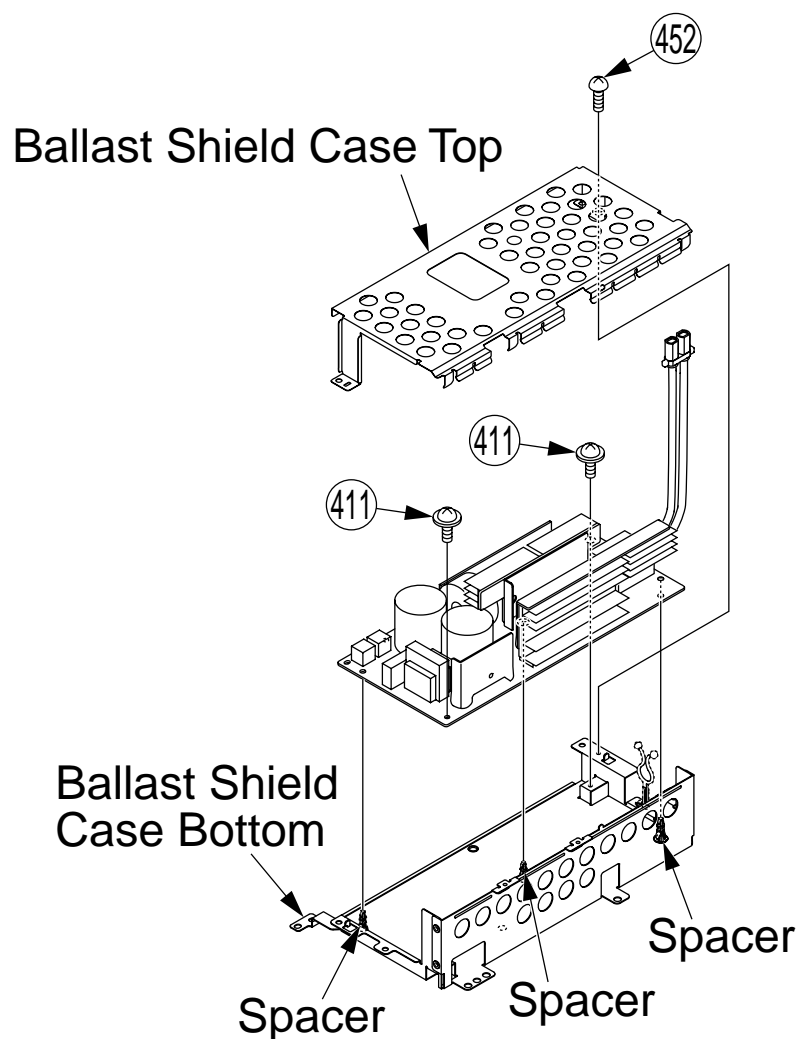


## Ballast C.B.A. Service Position

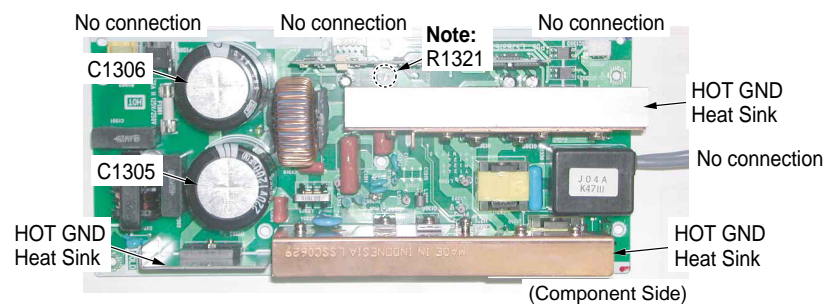


## Ballast C.B.A. Service Position





**Note:**  
When servicing the Ballast C.B.A., do not turn the Variable resistor (R1321) on the Ballast C.B.A.



<With the the Ballast Shield Case Top and the Ballast Shield Case Bottom removed>

Figure. 2



## Ballast C.B.A. Service Position

### CAUTION:

Make sure that the Thermal Fuse Unit (F001) does not touch any metallic parts when the Thermal Fuse Unit is not installed to this original position.

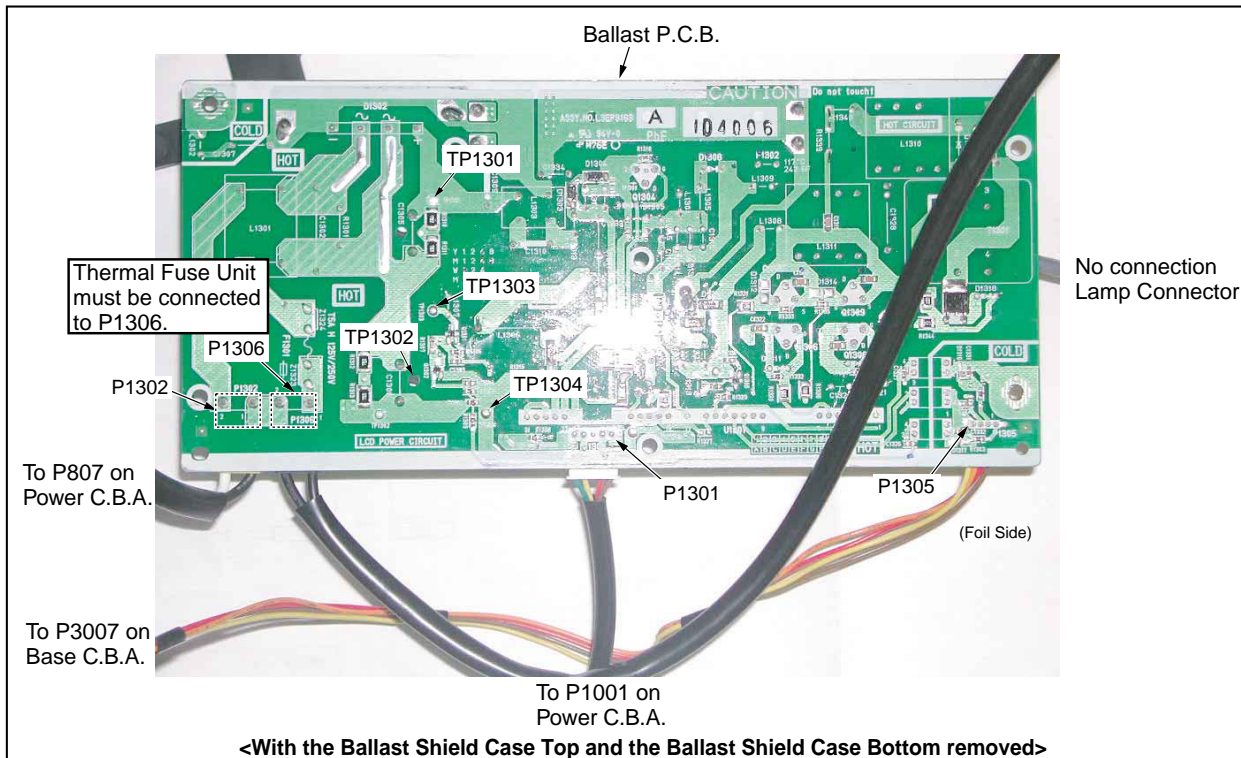
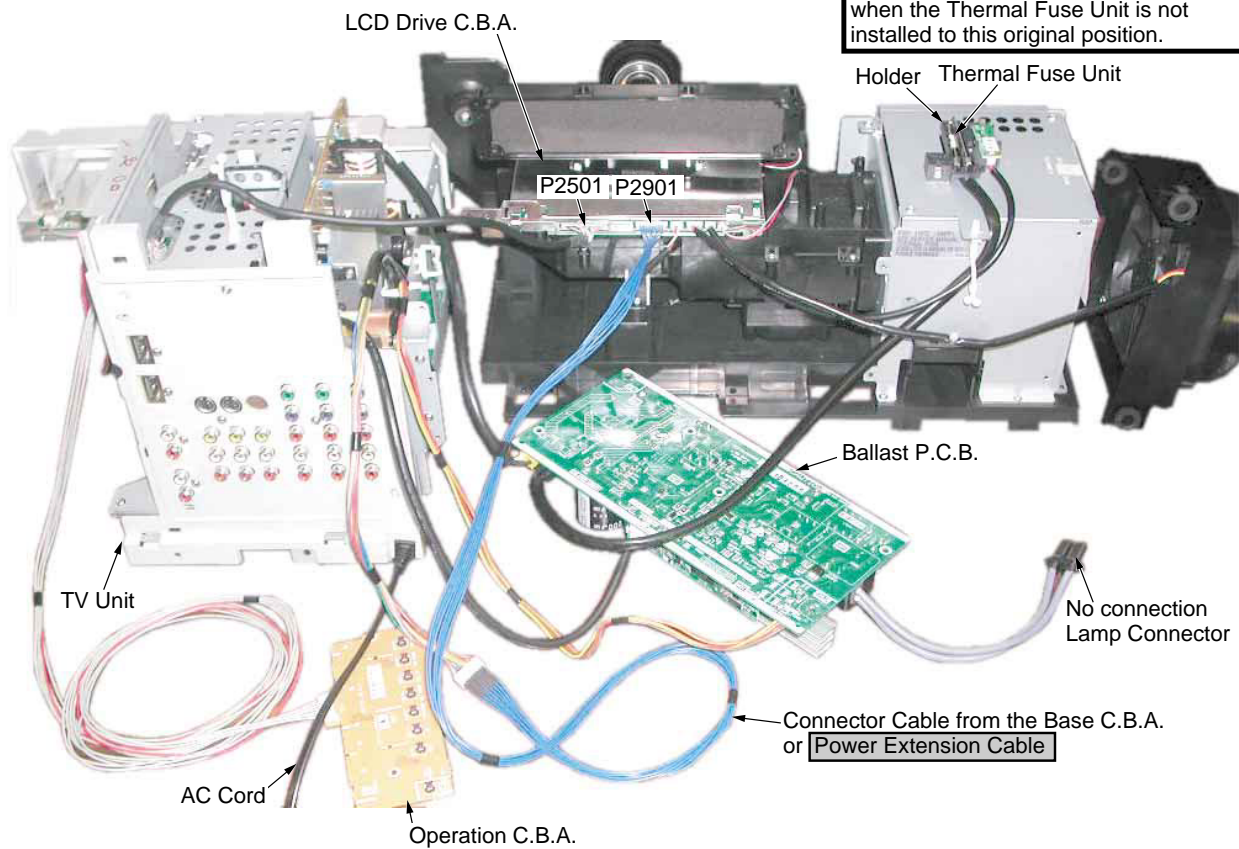
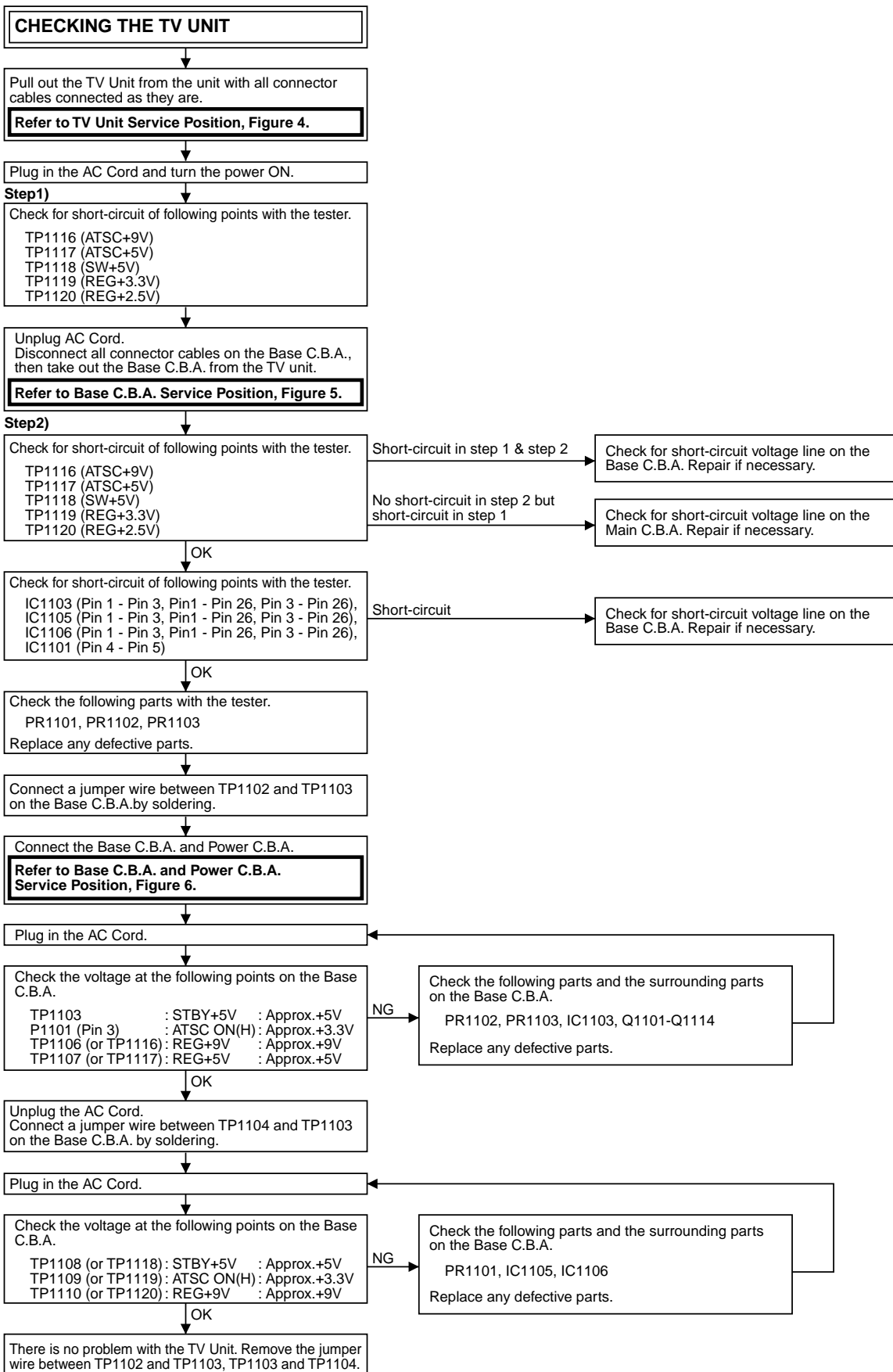


Figure. 3





## TV Unit Service Position

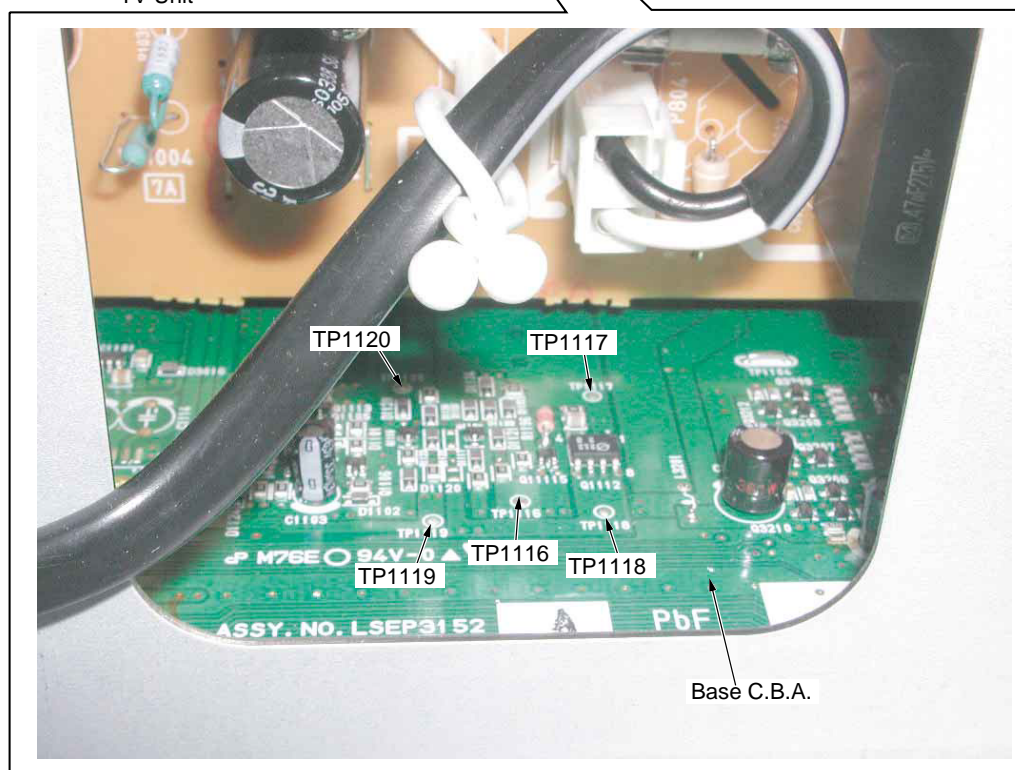
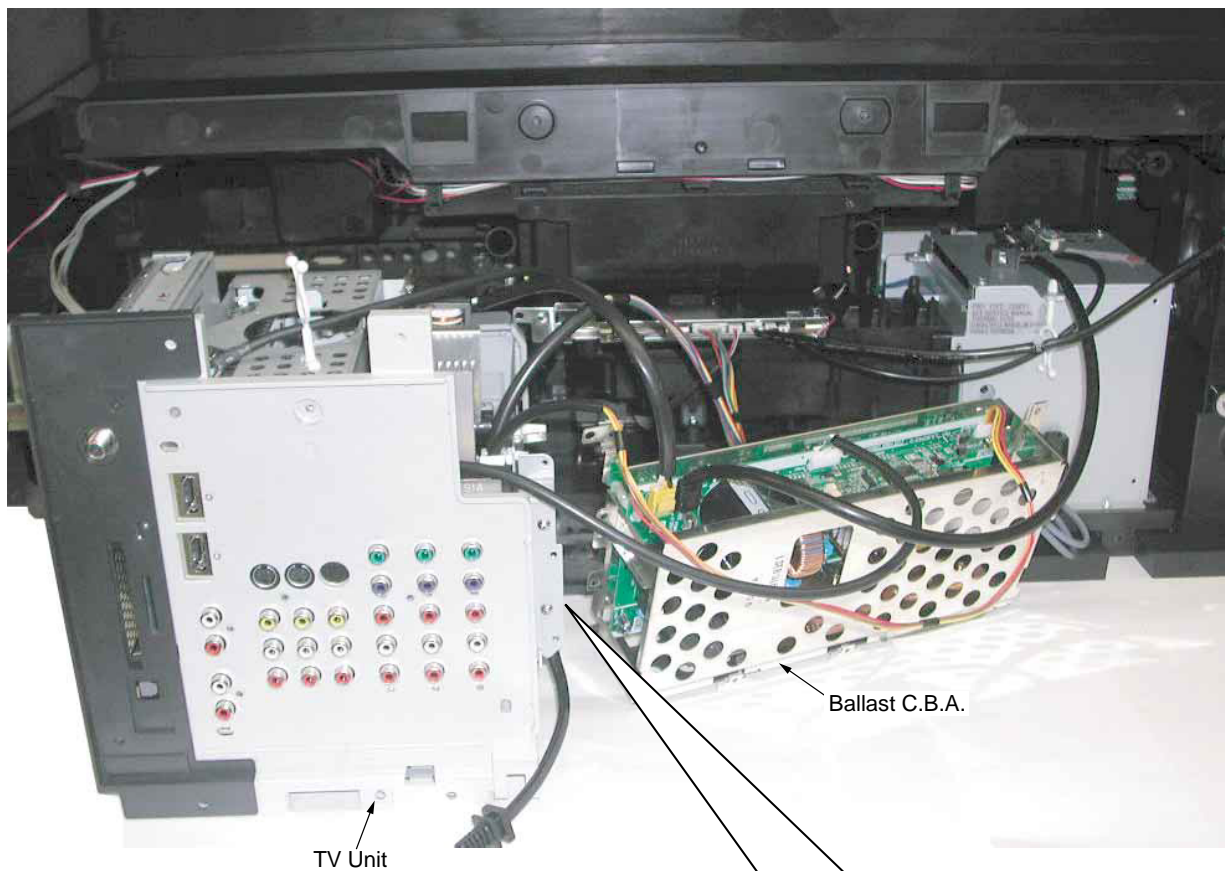


Figure. 4

### Base C.B.A. Service Position

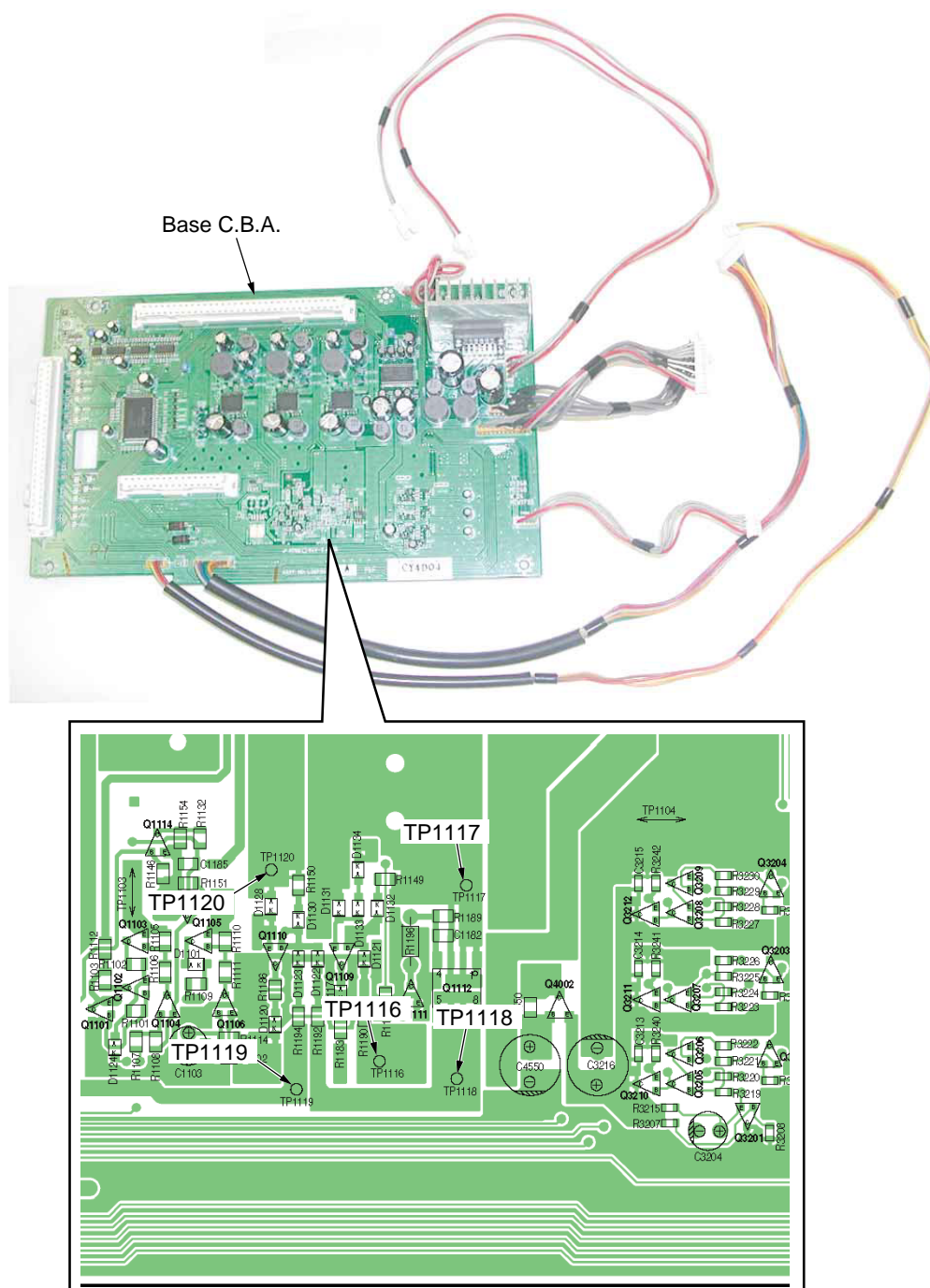
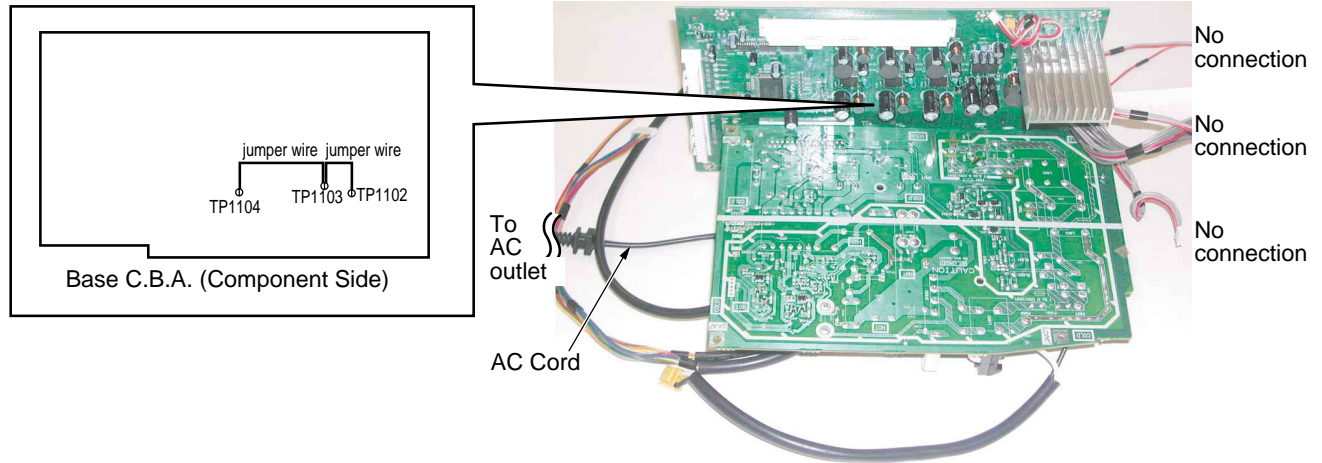


Figure. 5

## Base C.B.A. & Power C.B.A. Service Position

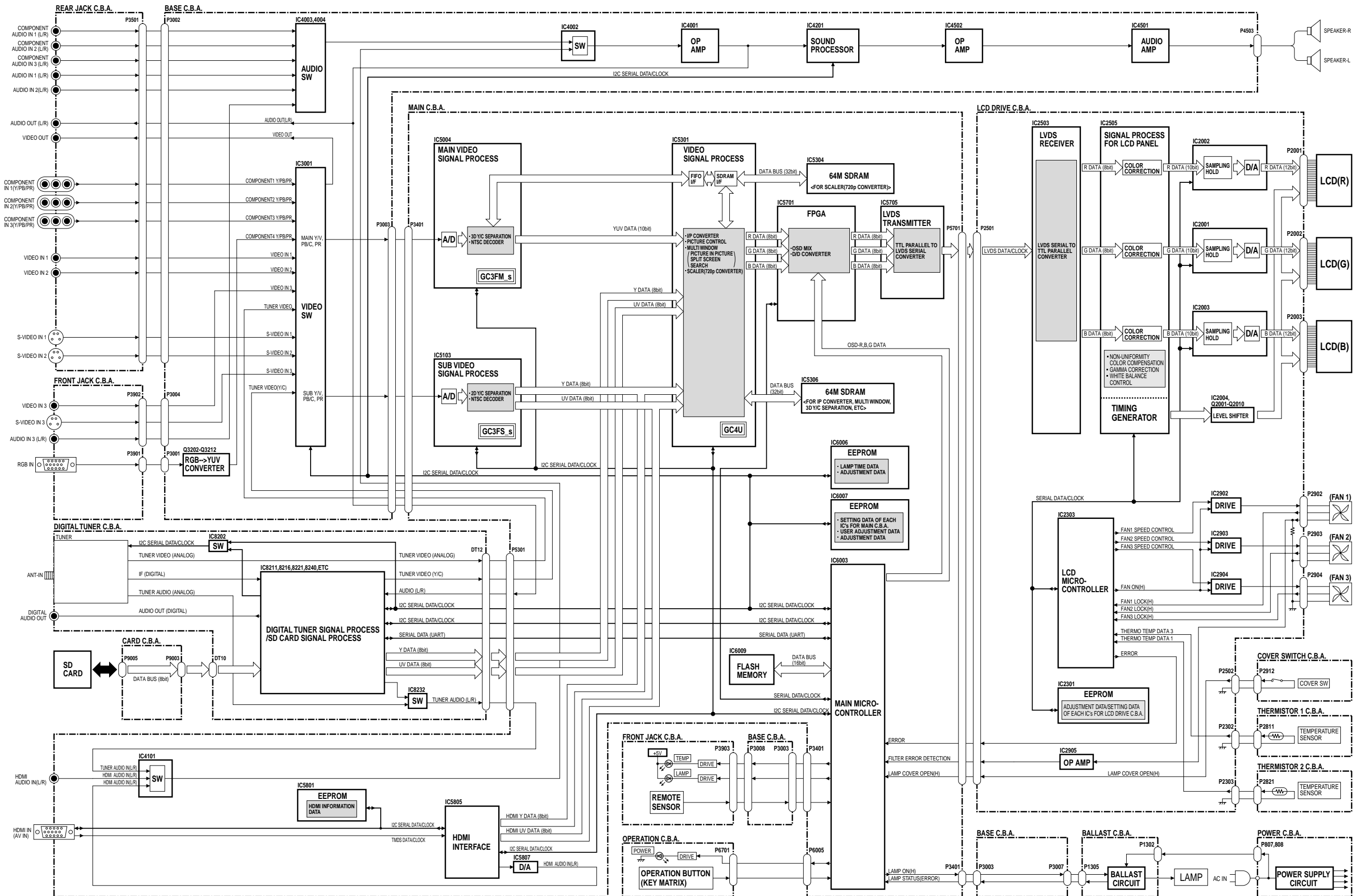


<Power C.B.A. & Base C.B.A.>

Figure. 6

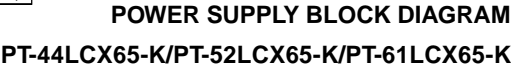
# 11 BLOCK DIAGRAMS

## OVERALL BLOCK DIAGRAM

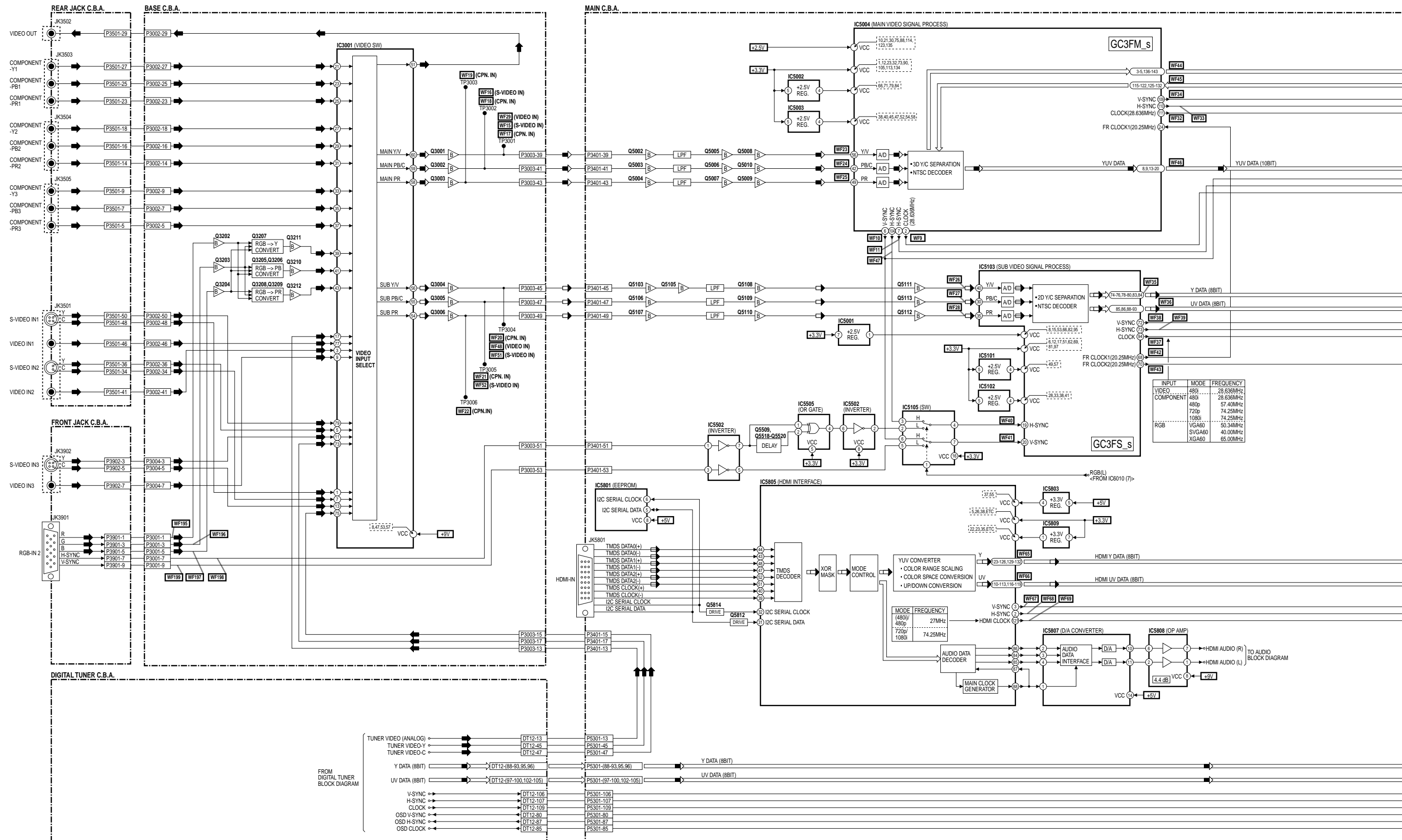


OVERALL BLOCK DIAGRAM

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

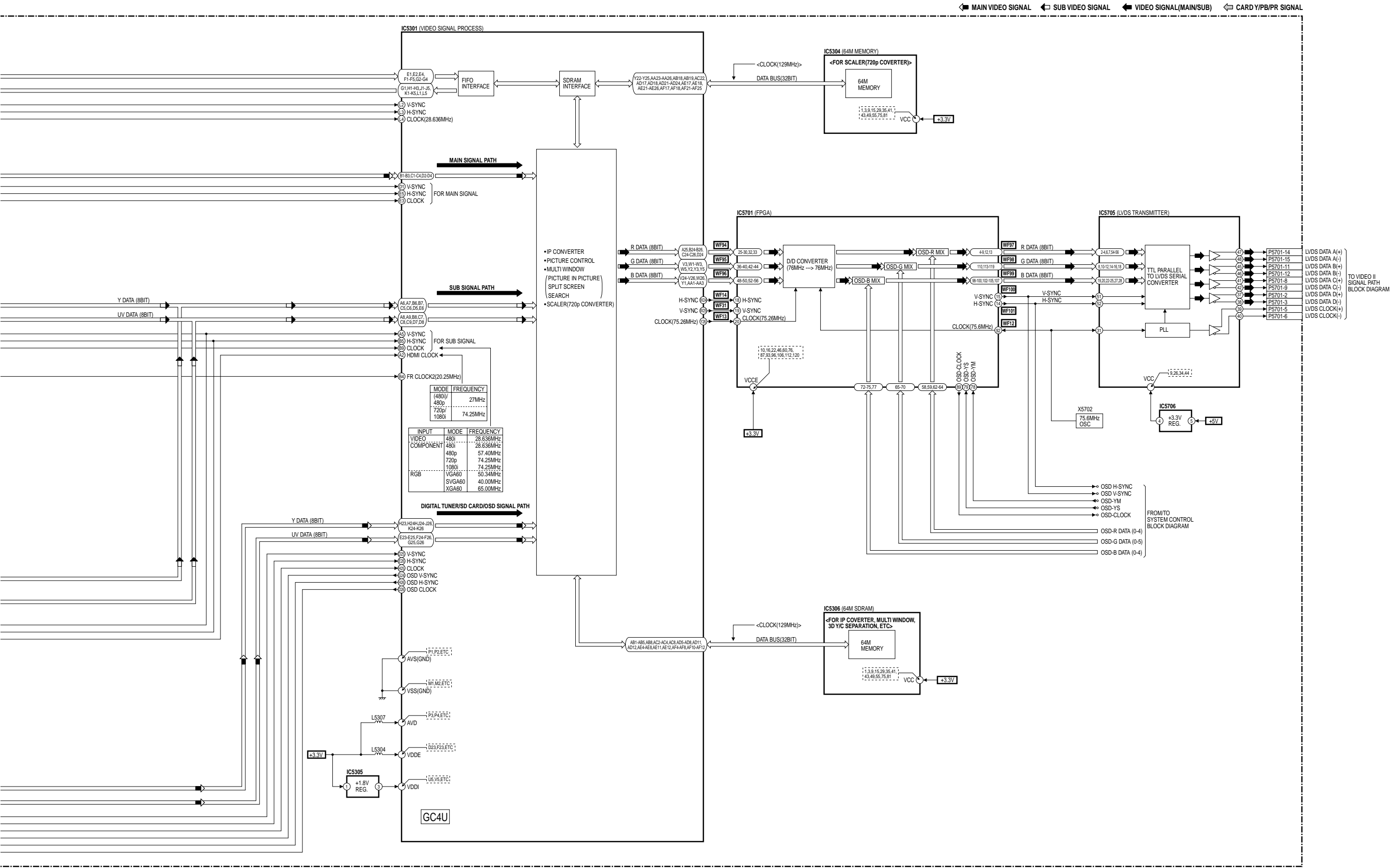


## VIDEO SIGNAL PATH I BLOCK DIAGRAM (1/2)





VIDEO SIGNAL PATH I BLOCK DIAGRAM (2/2)

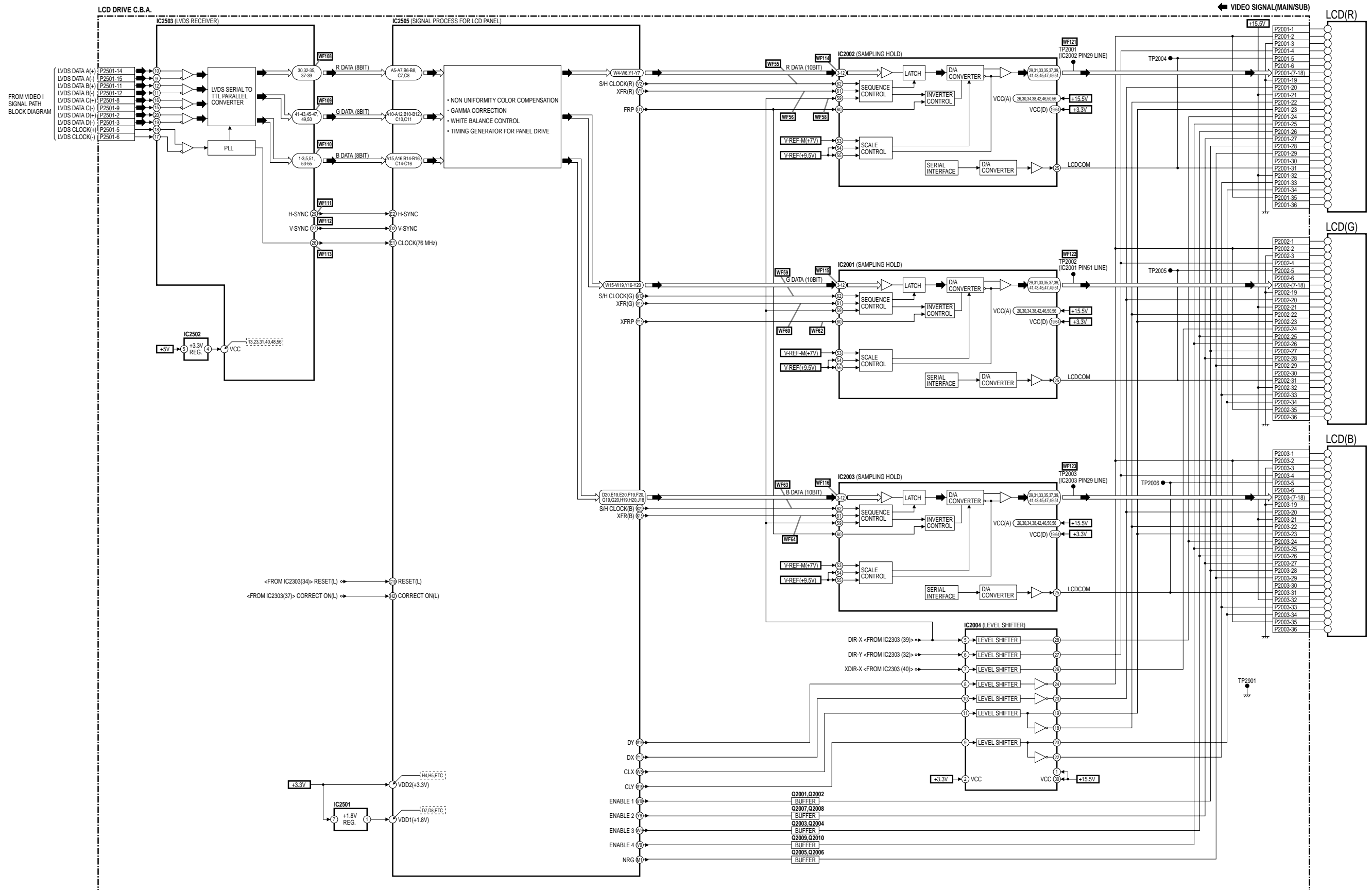


VIDEO SIGNAL PATH I BLOCK DIAGRAM (2/2)

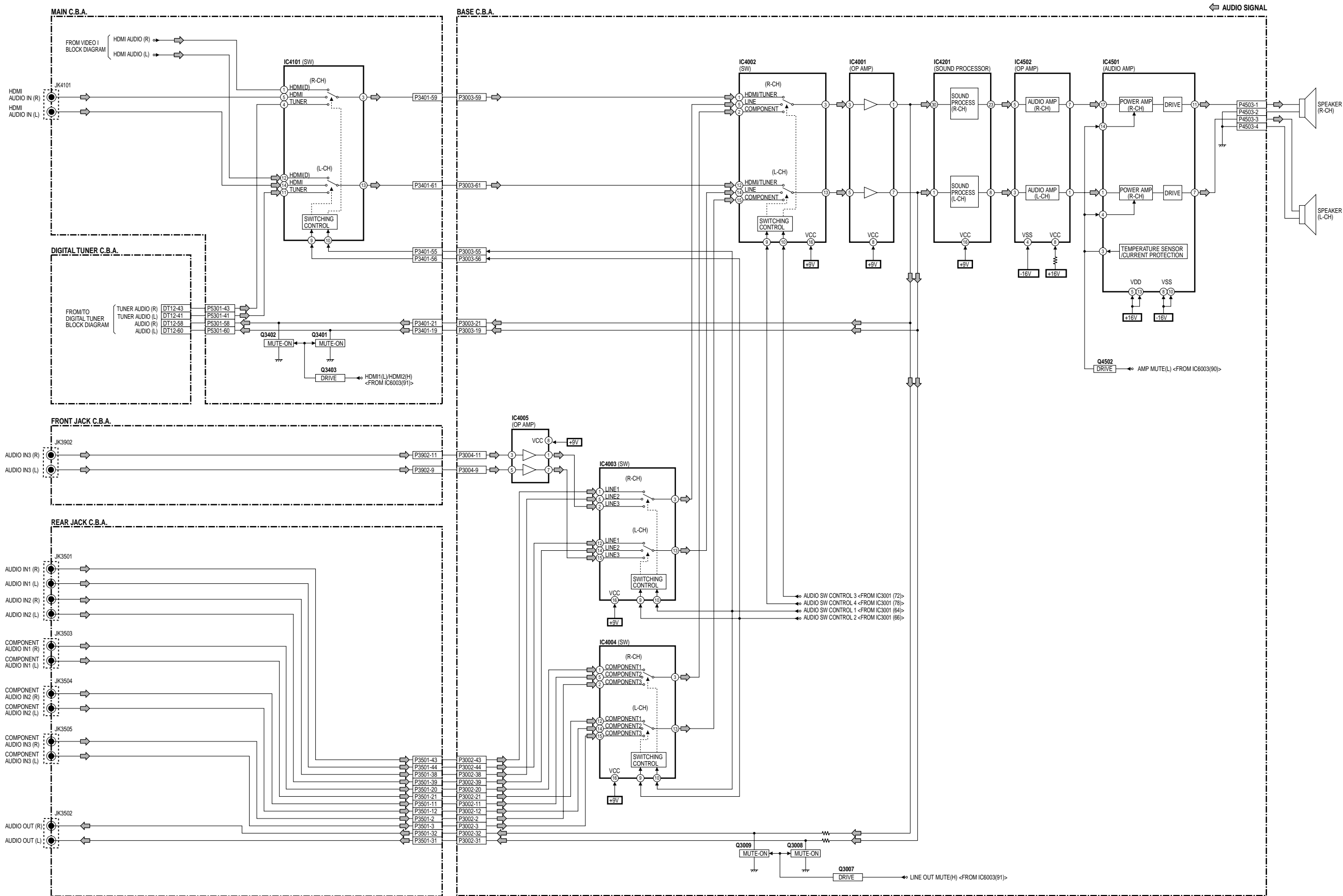
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



## VIDEO SIGNAL PATH II BLOCK DIAGRAM

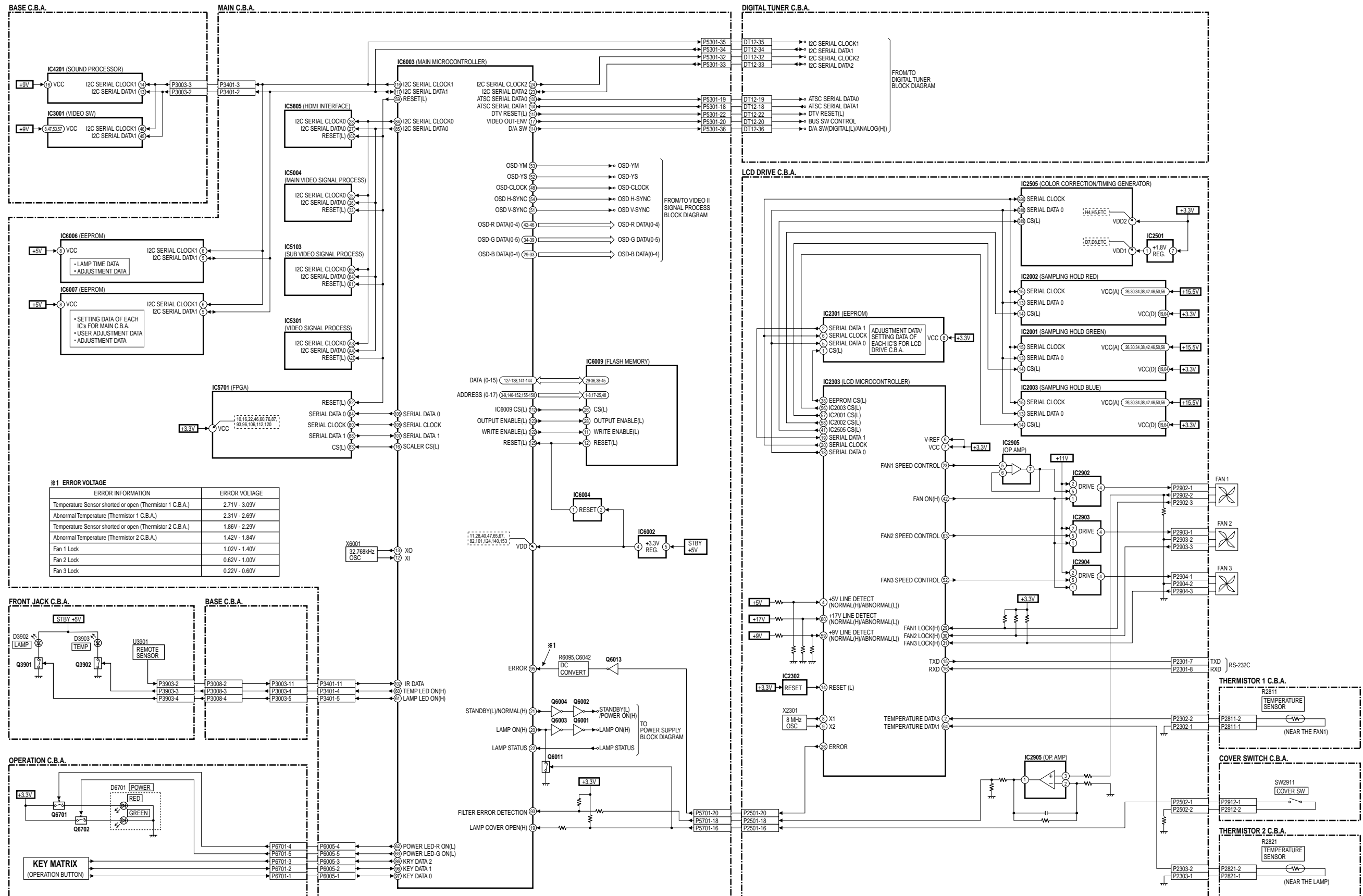
VIDEO SIGNAL PATH II BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

AUDIO SIGNAL PATH BLOCK DIAGRAM

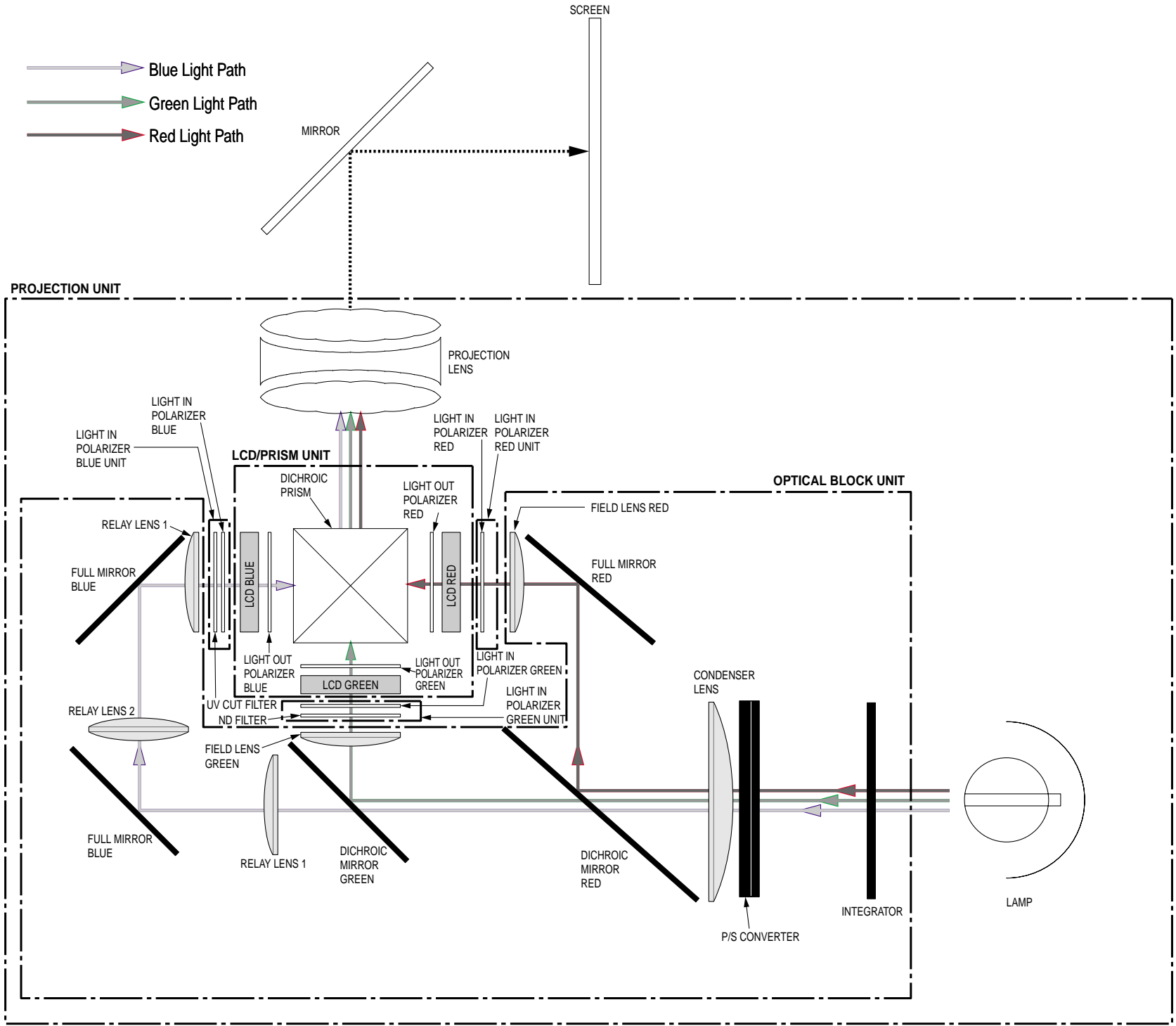


AUDIO SIGNAL PATH BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

## SYSTEM CONTROL BLOCK DIAGRAM

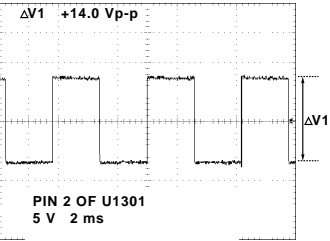


OPTICAL BLOCK DIAGRAM

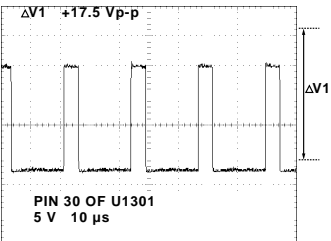


OPTICAL BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

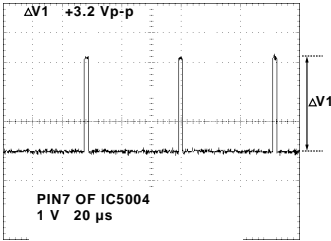
**SIGNAL WAVEFORMS**  
(Input: Color Bar Signal)



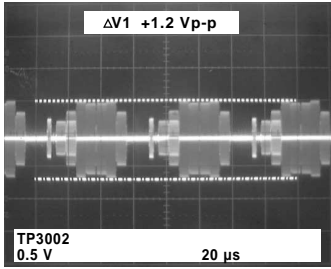
**WF 1**



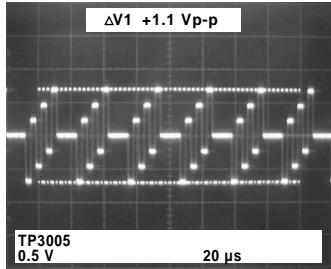
**WF 6**



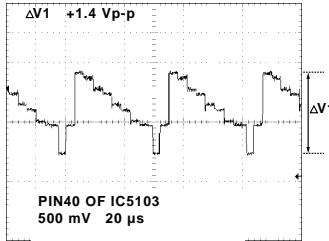
**WF 11**



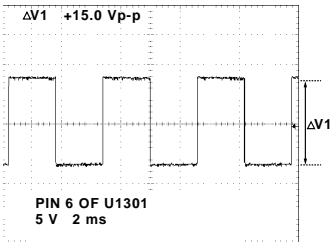
**WF 16**



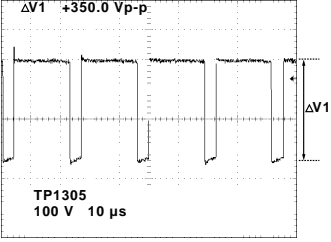
**WF 21**



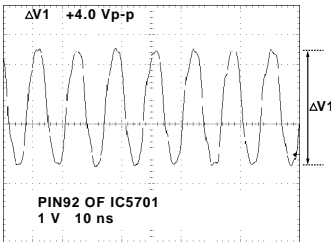
**WF 26**



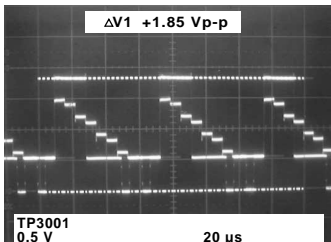
**WF 2**



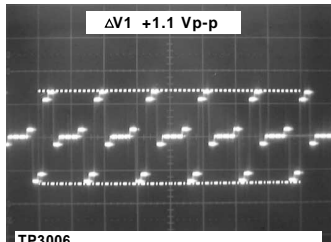
**WF 7**



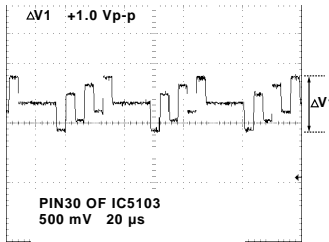
**WF 12**



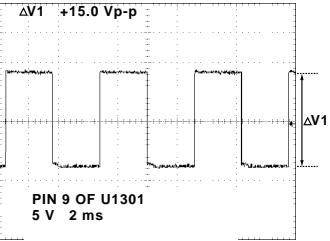
**WF 17**



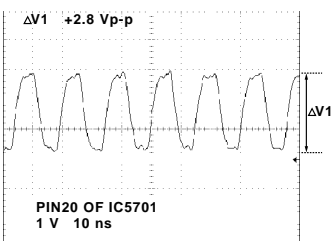
**WF 22**



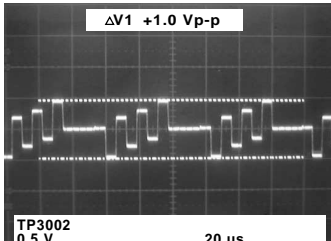
**WF 27**



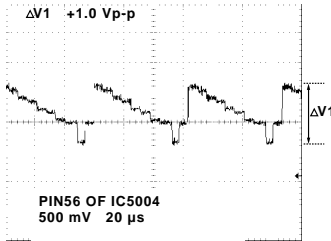
**WF 3**



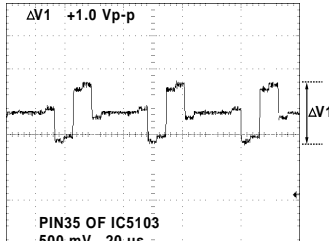
**WF 13**



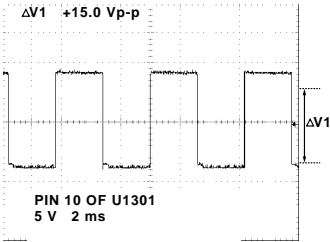
**WF 18**



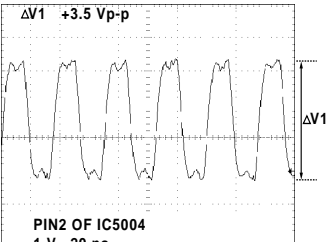
**WF 23**



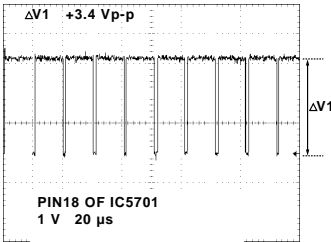
**WF 28**



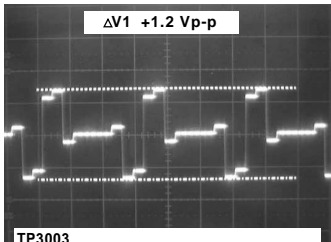
**WF 4**



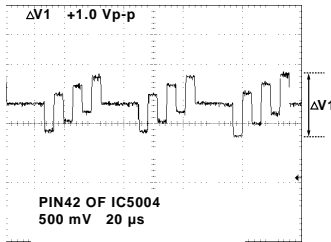
**WF 9**



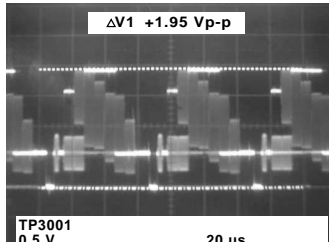
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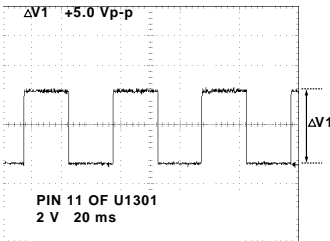
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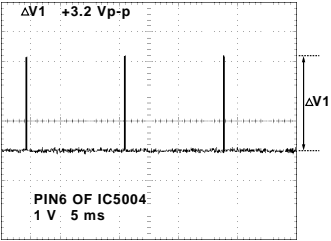
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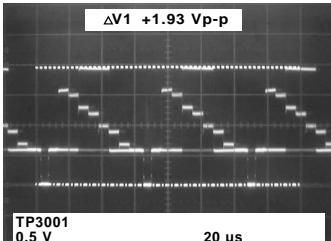
**WF 29**



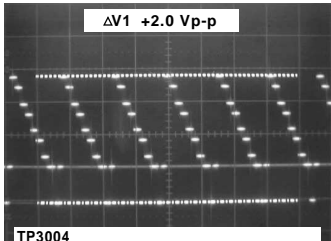
**WF 5**



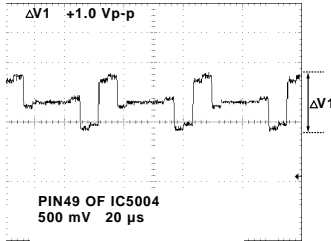
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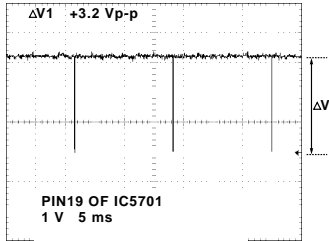
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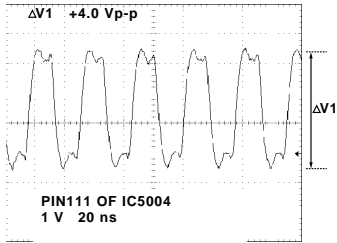
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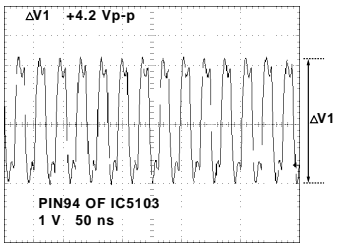
**WF 25**



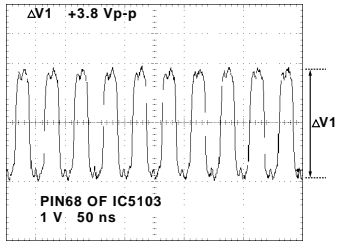
**WF 31**



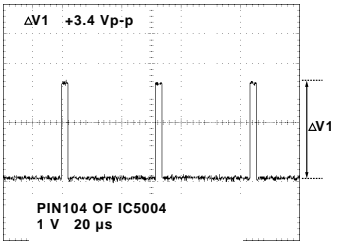
WF 32



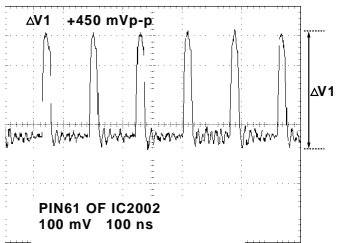
WF 37



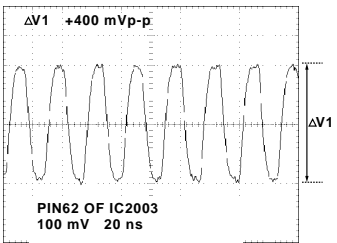
WF 42



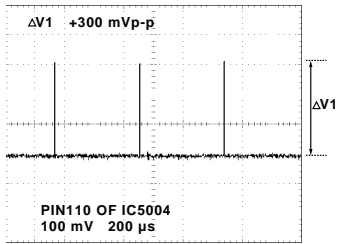
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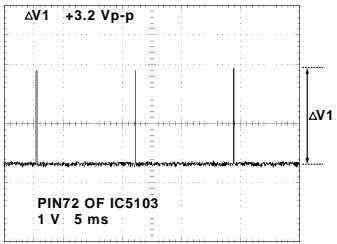
WF 56



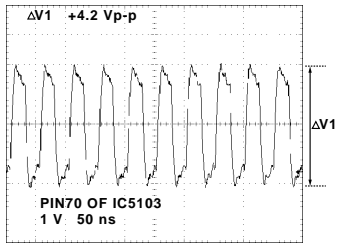
WF 63



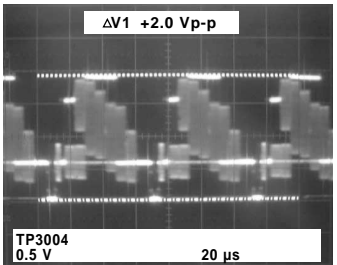
WF 33



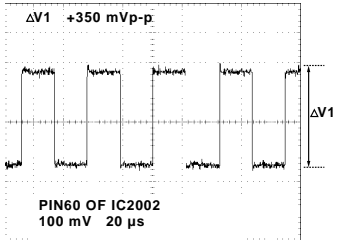
WF 38



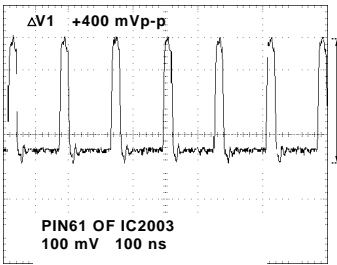
WF 43



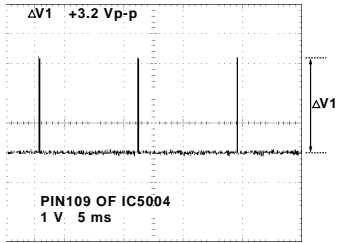
WF 48



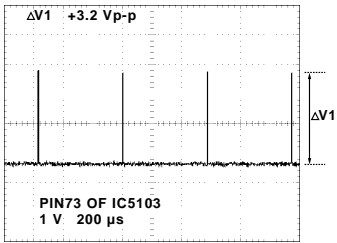
WF 58



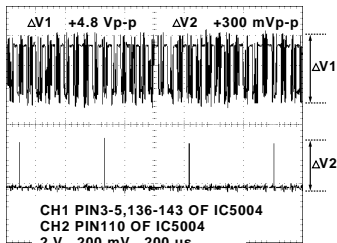
WF 64



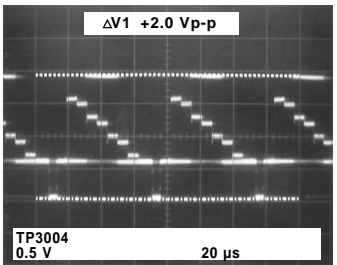
WF 34



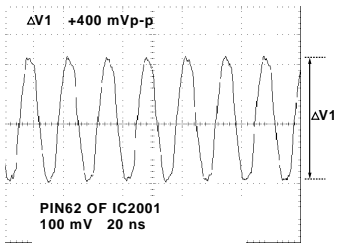
WF 39



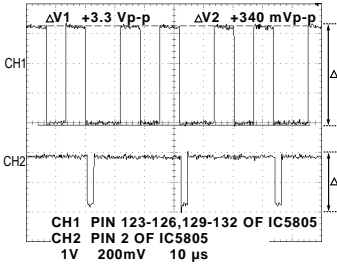
CH1 WF 44  
CH2 WF 33



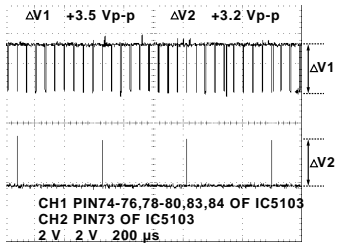
WF 51



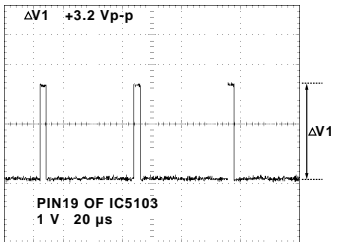
WF 59



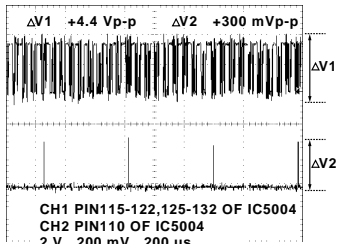
CH1 WF 65  
CH2 WF 68



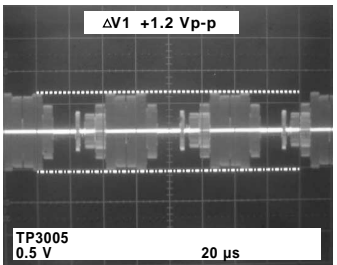
CH1 WF 35  
CH2 WF 39



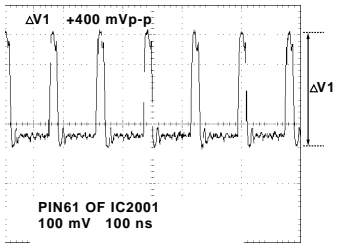
WF 40



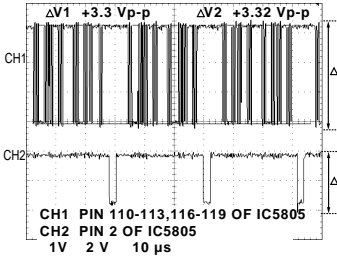
CH1 WF 45  
CH2 WF 33



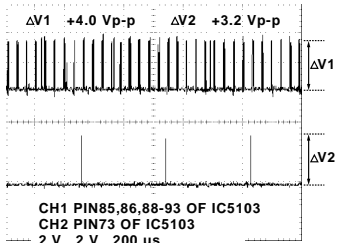
WF 52



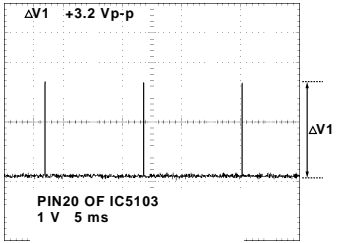
WF 60



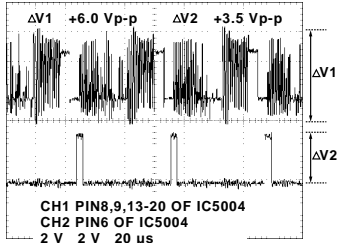
CH1 WF 66  
CH2 WF 68



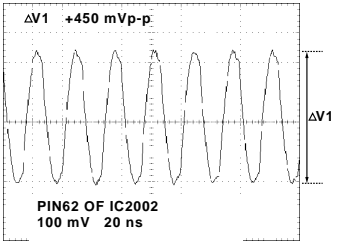
CH1 WF 36  
CH2 WF 39



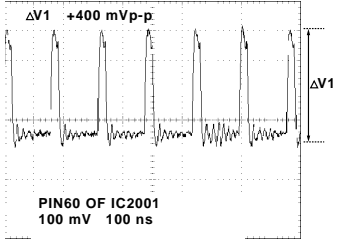
WF 41



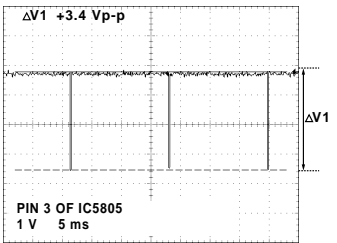
CH1 WF 46  
CH2 WF 10



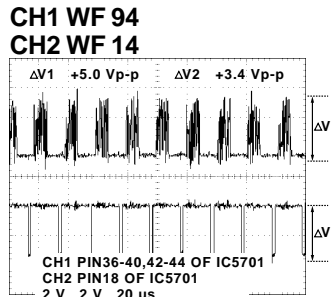
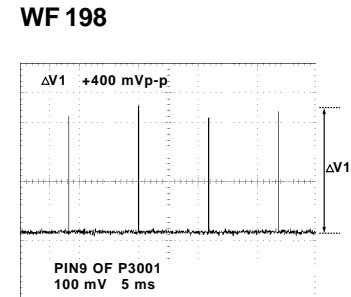
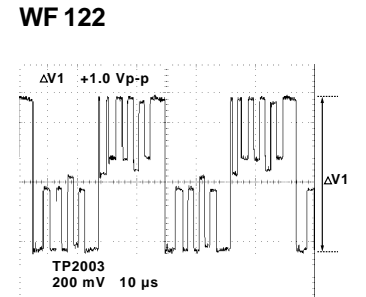
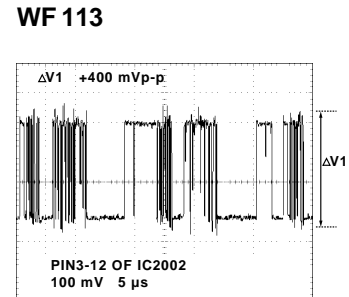
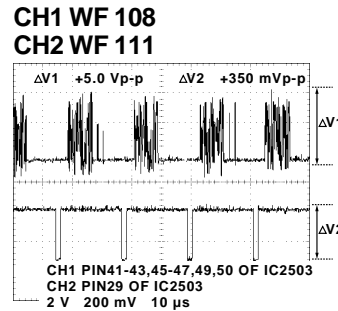
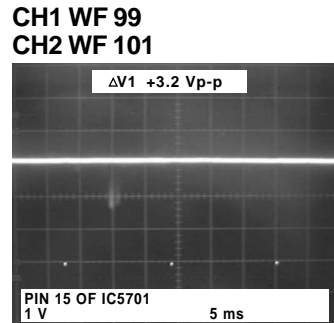
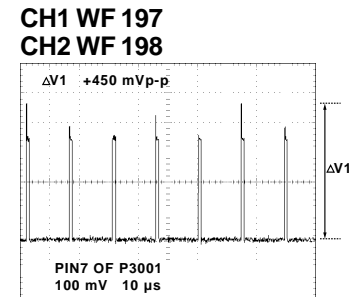
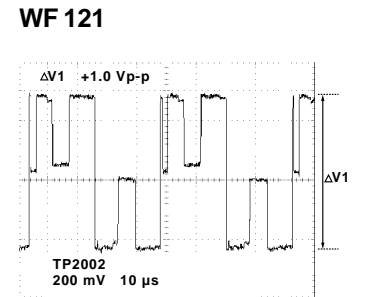
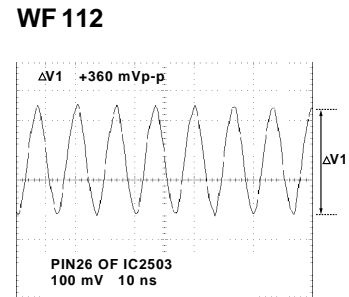
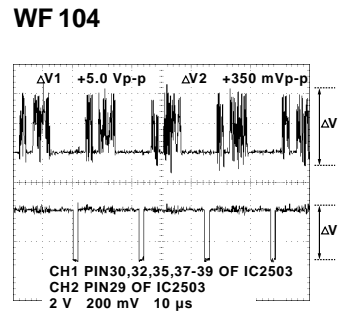
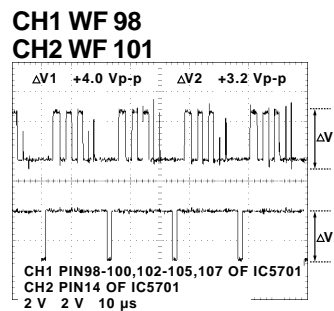
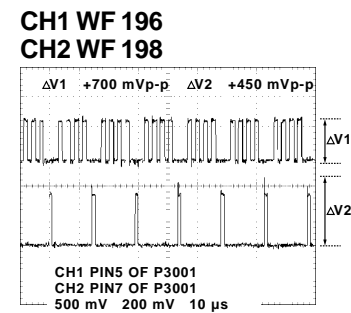
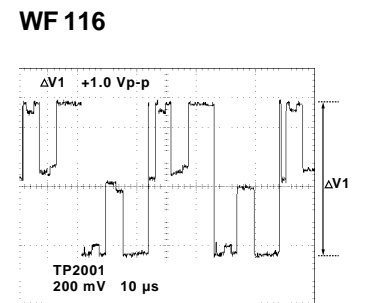
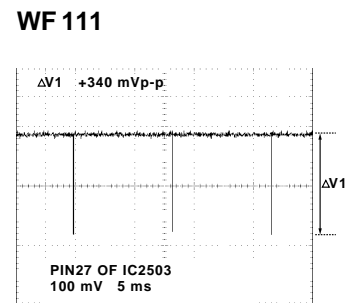
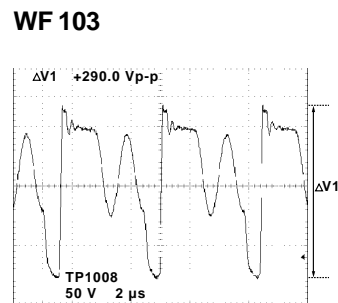
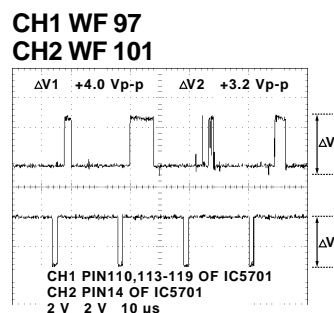
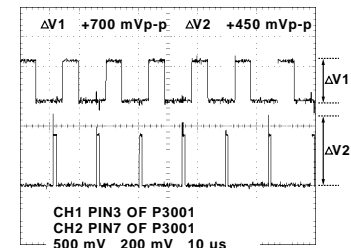
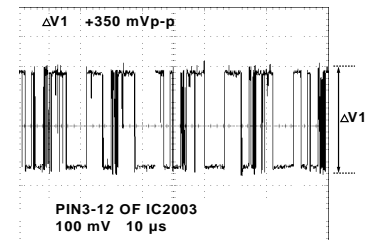
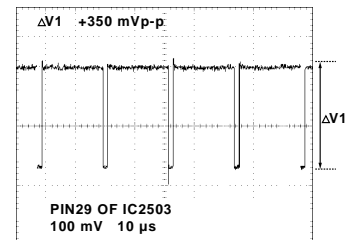
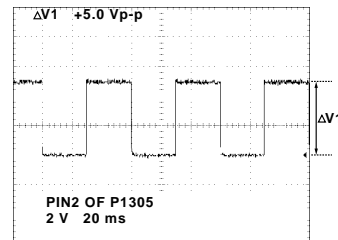
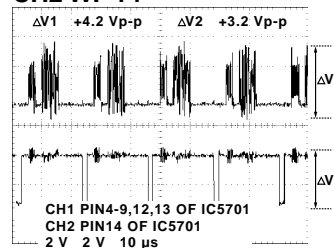
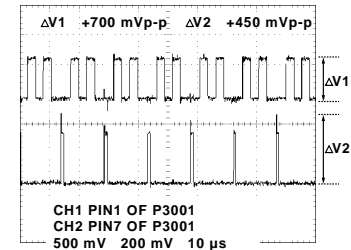
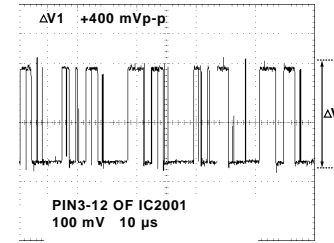
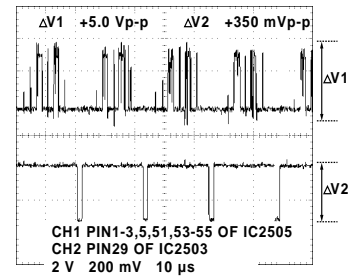
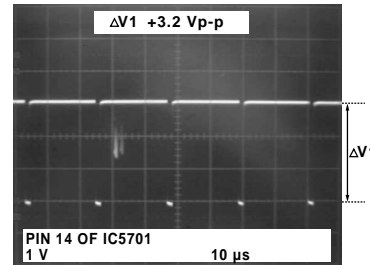
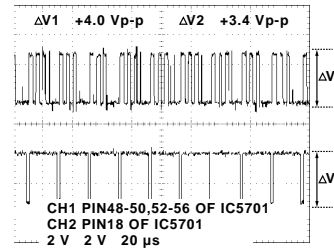
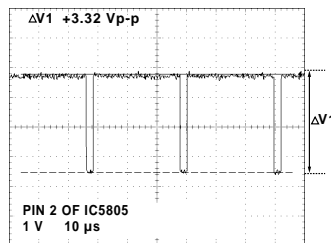
WF 55



WF 61



WF 67



CH1 WF 95  
CH2 WF 14

WF 100

CH1 WF 109  
CH2 WF 111

WF 114

WF 123

WF 199






# 12 SCHEMATIC DIAGRAMS

## 12.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTES

### 1. Important safety notice

Components identified by the sign  have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

### 2. Do not use the part number shown on this drawing for ordering.

The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

### 3. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

### 4. Parts different in shape or size may be used.

However, only interchangeable parts will be supplied as service replacement parts.

### 5. Test point information

● : Test point with a jumper wire across a hole in P.C.B.

○ : Test point with no test pin.

## Schematic Diagram Notes

### 1. Indication for Zener Voltage of Zener Diodes

The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

Example:

(6.2V).....Zener Voltage

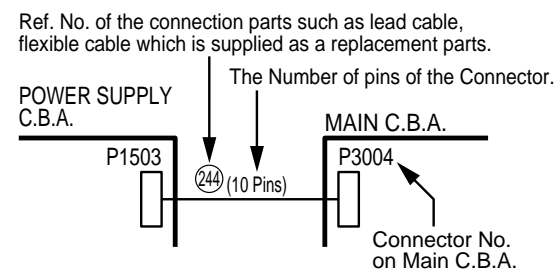
### 2. How to identify Connectors

Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.

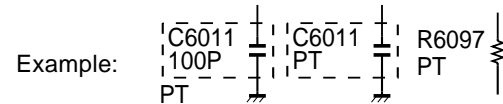
Use the interconnection schematic diagram to find the connection between associated connectors.

Example:

The connections between C.B.A.s are shown below.



### 3. Parts marked "PT" are not used in any models included in this service model.



### 4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

## Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.

For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:

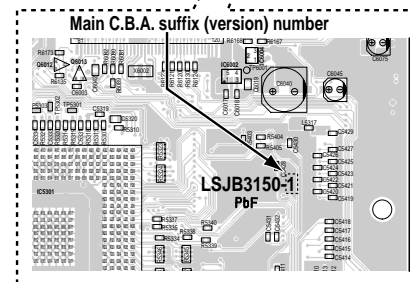
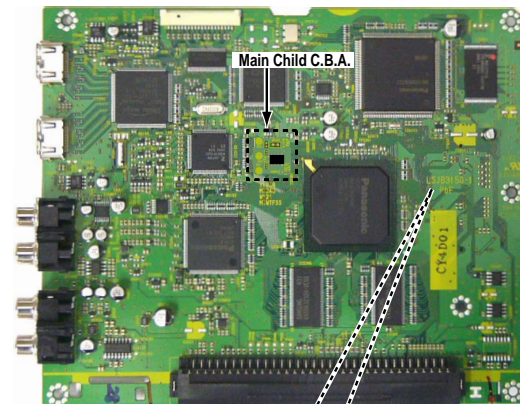
Circuit Board Layout includes components which are not used.

## MAIN C.B.A. REPLACEMENT NOTE:

Following parts change are made for early products. Please be sure to order the proper parts according to the following notes.

### Step 1 (Main C.B.A. suffix (version) number ①)

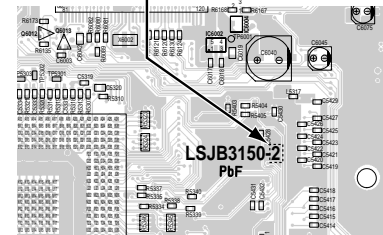
Main C.B.A. (Component Side)



From first mass production of this unit :  
Main Child C.B.A. LSEP3186A (Ref No. E11) marked by \*1 have been installed on the component side.

### Step 2 (Main C.B.A. suffix (version) number ②)

Main C.B.A. suffix (version) number



On running change basis :

- 1) Main C.B.A. suffix (version) number will be changed from ① to ② to include the circuit of the Main Child C.B.A. onto the Main C.B.A.
- 2) The parts marked by \*2 will be mounted on the Main C.B.A.

Ref. No.	Part Name	Step 1	Step 2
E11	MAIN CHILD C.B.A.	LSEP3186A	-----
IC5001	IC, LIENAR	-----	C0DBFFD00005
C5073	C CHIP 50V 470PF	-----	ECJ1VF1H471K
C5180	C CHIP 6.3V 2.2UF	-----	ECJ2YB0J225K
C5181	C CHIP 10V 1UF	-----	ECJ1VF1A105Z

NOTE:

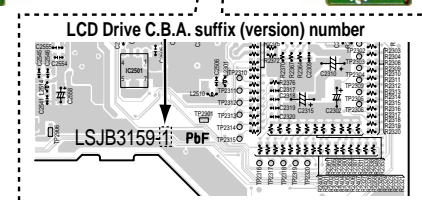
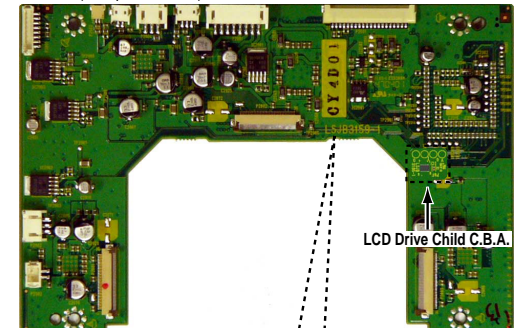
For the details about \*1~\*2, refer to the Schematic Diagram or the Circuit Board Layout.

## LCD DRIVE C.B.A. REPLACEMENT NOTE:

Following parts change are made for early products. Please be sure to order the proper parts according to the following notes.

### Step 1 (LCD Drive C.B.A. suffix (version) number ①)

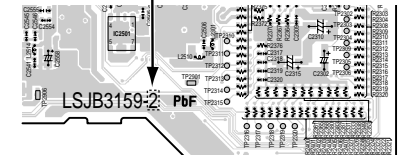
LCD Drive C.B.A. (Component Side)



From first mass production of this unit  
LCD Drive Child C.B.A. LSEP3185A (Ref No. E111) marked by \*3 have been installed on the component side.

### Step 2 (LCD Drive C.B.A. suffix (version) number ②)

LCD Drive C.B.A. suffix (version) number

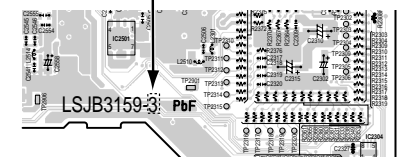


On running change basis :

- 1) The parts marked by \*4 will be mounted on the LCD Drive C.B.A.
- 2) The parts marked by \*5 will be changed.

### Step 3 (LCD Drive C.B.A. suffix (version) number ③)

LCD Drive C.B.A. suffix (version) number



On running change basis :

- 1) LCD Drive C.B.A. suffix (version) number will be changed from ② to ③ to include the circuit of the LCD Drive Child C.B.A. onto the LCD Drive C.B.A.
- 2) The parts marked by \*6 will be mounted on the LCD Drive C.B.A.


Ref. No.	Part Name	Step 1	Step 2	Step 3
E111	LCD DRIVE CHILD C.B.A.	LSEP3185A	LSEP3185A	-----
R2059	MGF CHIP 1/16W 15K	-----	ERJ3GEYJ153V	ERJ3GEYJ153V
C2015	C CHIP 16V 0.1UF	ERJ3GEYJ153V	ECJ1VF1C104Z	ECJ1VF1C104Z
R2101	MGF CHIP 1/16W 27K	ERJ6GEYJ273V	ERJ3GEYJ273V	ERJ3GEYJ273V
IC2304	IC, LIENAR	-----	-----	C0JBAB000619
C2327	C CHIP 16V 0.1UF	-----	-----	ECJ1VF1C104Z
R2499	MGF CHIP 1/16W 0	-----	-----	ERJ3GEYR00V
R2590	MGF CHIP 1/16W 0	-----	-----	ERJ3GEYR00V
R2591	MGF CHIP 1/16W 0	-----	-----	ERJ3GEYR00V

NOTE:

For the details about \*3~\*6, refer to the Schematic Diagram or the Circuit Board Layout.

12.2. INTERCONNECTION SCHEMATIC DIAGRAM

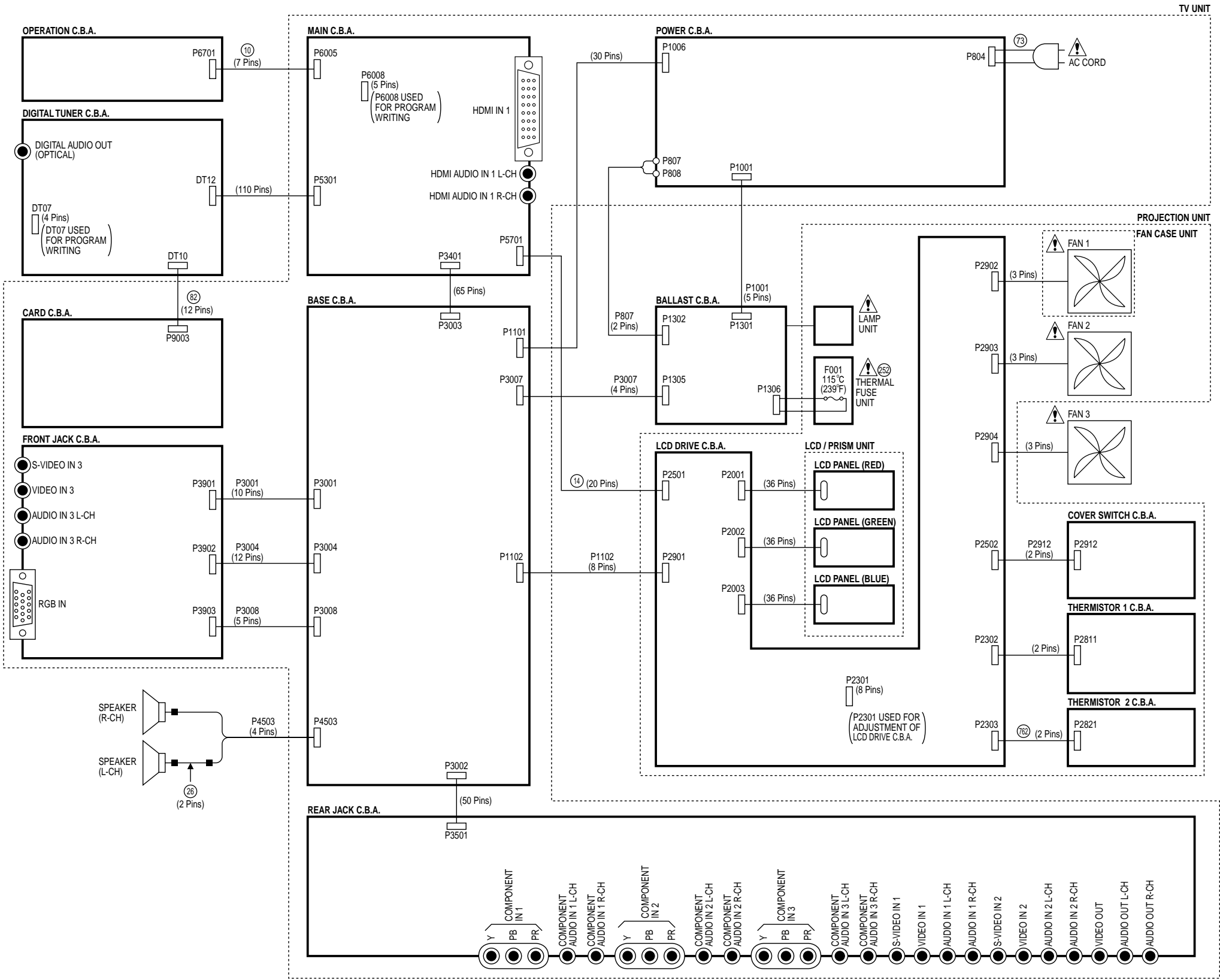
INTERCONNECTION SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

THERMAL FUSE UNIT REPLACEMENT NOTE:  
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE NUMBER LSJA0464 (115°C).  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N'UTILISERQUE DES FUSIBLE DE MÊME  
TYPE NUMÉRO LSJA0464 (115°C)

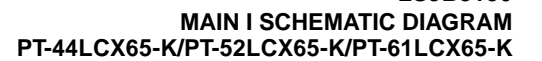
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
THE LAMP UNIT IS NOT SUPPLIED AS A REPLACEMENT PART.  
WHEN REPLACING, REPLACE THE LAMP UNIT WHICH IS  
SUPPLIED AS A OPTIONAL ACCESSORY.

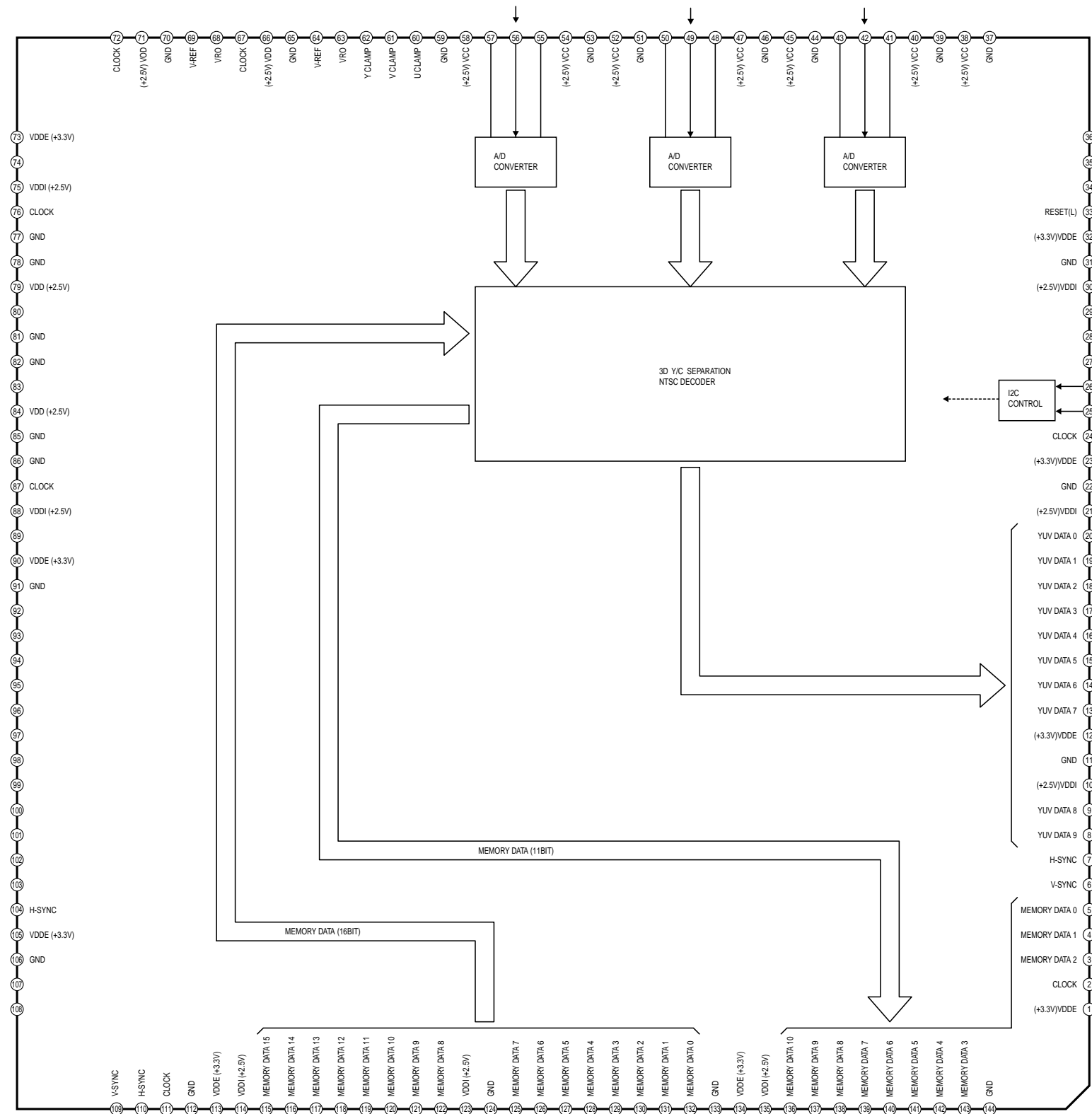


INTERCONNECTION SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

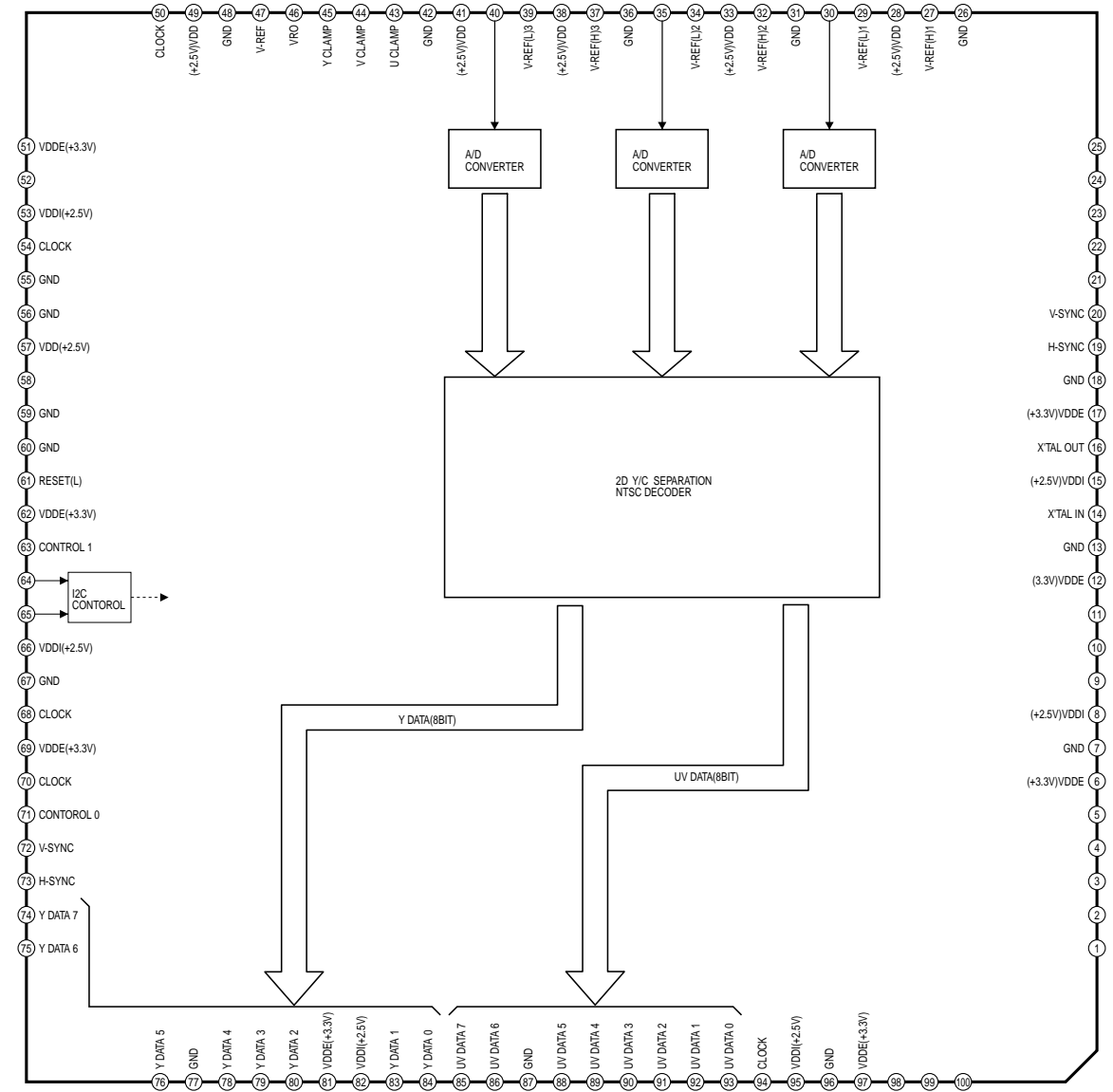
NOTE:  
PARTS MARKED "PT" ARE NOT USED.



## IC5004 DETAIL BLOCK DIAGRAM



## IC5103 DETAIL BLOCK DIAGRAM



IC5004 DETAIL BLOCK DIAGRAM  
IC5103 DETAIL BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

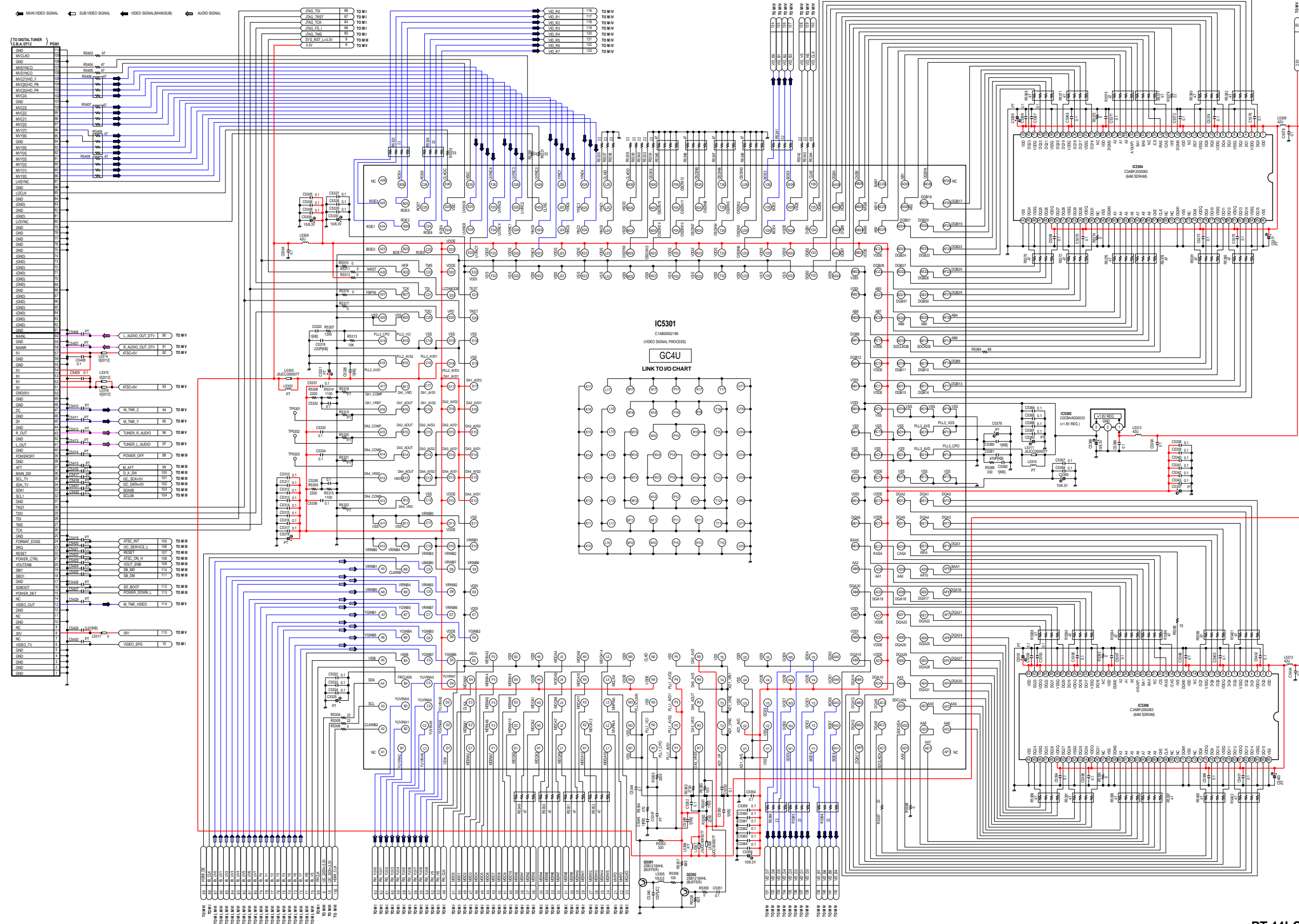


## MAIN II SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.



**LINK TO VOLTAGE CHART**

MAIN II SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K












I/O CHART OF IC5301 (1/2)



Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description
A1	-	NC	(Not used)	C14	-	DA3_AVS2	GND	F1	I	MDINA7	MEMORY DATA7 FROM IC5004(GC3FM)	L12	-	VSS	GND
A2	I	CLKINB2	HDMI CLOCK	C15	-	DA2_AVS2	GND	F2	I	MDINA6	MEMORY DATA6 FROM IC5004(GC3FM)	L13	-	VSS	GND
A3	I	SCL	I2C SERIAL CLOCK	C16	-	DA1_AVS2	GND	F3	I	MDINA5	MEMORY DATA5 FROM IC5004(GC3FM)	L14	-	VSS	GND
A4	I	SDA	I2C SERIAL DATA	C17	-	DA1_AVS1	GND	F4	I	MDINA4	MEMORY DATA4 FROM IC5004(GC3FM)	L15	-	VSS	GND
A5	I	VSIB	V-SYNC	C18	I	PLL2_AVD1	VDD(+3.3V)	F5	I	MDINA3	MEMORY DATA3 FROM IC5004(GC3FM)	L16	-	VSS	GND
A6	I	YGINB5	Y DATA5	C19	-	VSS	GND	F22	-	VSS	GND	L17	-	VSS	GND
A7	I	YGINB1	Y DATA1	C20	O	TDO	TEST DATA	F23	I	VDDE	VDD(+3.3V)	L22	-	VSS	GND
A8	I	VRINB5	UV DATA5	C21	I	TDI	TEST DATA	F24	I	UVINC4	C DATA 2	L23	-	VDDE	VDD(+3.3V)
A9	I	VRINB1	UV DATA1	C22	I	TMS	TEST MODE SELECT	F25	I	UVINC5	C DATA 3	L24	-	YINC0	(Not used)
A10	-	VRINB5	(Not used)	C23	-	ROE0	(Not used)	F26	I	UVINC6	C DATA 4	L25	-	YINC1	(Not used)
A11	-	VSS	GND	C24	O	ROE8	R DATA6	G1	O	MDOA0	MEMORY DATA0 TO IC5004(GC3FM)	L26	-	CLKID	(Not used)
A12	-	DA4_COMP	D/A4 COMP	C25	O	ROE7	R DATA5	G2	I	MDINA10	MEMORY DATA10 FROM IC5004(GC3FM)	M1	-	VSS	GND
A13	I	DA4_VREF	V-REF FOR D/A4	C26	O	ROE6	R DATA4	G3	I	MDINA9	MEMORY DATA9 FROM IC5004(GC3FM)	M2	-	VSS	GND
A14	-	DA4_COMP	D/A3 COMP	D1	I	VSIA	V-SYNC	G4	I	MDINA8	MEMORY DATA8 FROM IC5004(GC3FM)	M3	I	PLL1CLKIN	PLL1 CLOCK
A15	-	DA2_COMP	D/A2 COMP	D2	I	YUVINA9	YUV DATA9	G5	I	VDDI	VDD(+1.8V)	M4	I	VDDE	VDD(+3.3V)
A16	I	DA1_VREF	V-REF FOR D/A1	D3	I	YUVINA8	YUV DATA8	G22	-	VSS	GND	M5	I	VDDI	VDD(+1.8V)
A17	-	DA1_COMP	D/A1 COMP	D4	I	YUVINA7	YUV DATA7	G23	I	VDDE	VDD(+3.3V)	M10	-	VSS	GND
A18	-	PLL2_AVS1	GND	D5	I	YGINB6	Y DATA6	G24	I	UVINC1	V-SYNC	M11	-	VSS	GND
A19	O	PLL2_CPO	PLL2 PHASE COMP	D6	I	VDDE	VDD(+3.3V)	G25	I	UVINC2	C DATA 0	M12	-	VSS	GND
A20	-	VSS	GND	D7	I	VRINB6	UV DATA6	G26	I	UVINC3	C DATA 1	M13	-	VSS	GND
A21	-	FBPIN	(Not used)	D8	I	VRINB2	UV DATA2	H1	O	MDOA3	MEMORY DATA3 TO IC5004(GC3FM)	M14	-	VSS	GND
A22	I	NRST	RESET(L)	D9	-	VRINB7	(Not used)	H2	O	MDOA2	MEMORY DATA2 TO IC5004(GC3FM)	M15	-	VSS	GND
A23	-	BOE0	(Not used)	D10	-	VRINB2	(Not used)	H3	O	MDOA1	MEMORY DATA1 TO IC5004(GC3FM)	M16	-	VSS	GND
A24	-	ROE1	(Not used)	D11	I	VDDE	VDD(+3.3V)	H4	I	VDDE	VDD(+3.3V)	M17	-	VSS	GND
A25	O	ROE3	R DATA1	D12	I	VDDE	VDD(+3.3V)	H5	I	VDDI	VDD(+1.8V)	M22	I	VDDI	VDD(+1.8V)
A26	-	NC	(Not used)	D13	-	DA4_AVS1	GND	H22	I	VDDI	VDD(+1.8V)	M23	-	OSDYM	(Not used)
B1	I	YUVINA2	YUV DATA2	D14	-	DA3_AVS1	GND	H23	I	YINC8	Y DATA 6	M24	-	VSOD	(Not used)
B2	I	YUVINA1	YUV DATA1	D15	-	DA2_AVS1	GND	H24	I	YINC9	Y DATA 7	M25	-	HSOD	(Not used)
B3	I	YUVINA0	YUV DATA0	D16	I	DA2_AVD2	VDD(+3.3V)	H25	I	CLKIC	CLOCK	M26	-	CLKOD	(Not used)
B4	I	FRCLKIN	CLOCK FROM IC5103(GC3FS)	D17	I	DA1_AVD1	VDD(+3.3V)	H26	I	UVINC0	H-SYNC	N1	O	PLL1_CPO	PLL1 PHASE COMP
B5	I	HSIB	H-SYNC	D18	I	PLL2_AVD2	VDD(+3.3V)	J1	O	MDOA8	MEMORY DATA8 TO IC5004(GC3FM)	N2	I	PLL1_VCI	PLL1 OSC CONTROL
B6	I	YGINB4	Y DATA4	D19	-	VSS	GND	J2	O	MDOA7	MEMORY DATA7 TO IC5004(GC3FM)	N3	-	VSS	GND
B7	I	YGINB0	Y DATA0	D20	-	VPD	(Not used)	J3	O	MDOA6	MEMORY DATA6 TO IC5004(GC3FM)	N4	I	VEED	VDD(+3.3V)
B8	I	VRINB4	UV DATA4	D21	-	LCDMODE	(Not used)	J4	O	MDOA5	MEMORY DATA5 TO IC5004(GC3FM)	N5	-	CLKO	(Not used)
B9	I	CLKINB	CLOCK FROM IC5103 (GC3FS)	D22	I	VDDE	VDD(+3.3V)	J5	O	MDOA4	MEMORY DATA4 TO IC5004(GC3FM)	N10	-	VSS	GND
B10	-	VRINB4	(Not used)	D23	I	VDDE	VDD(+3.3V)	J22	I	VDDI	VDD(+1.8V)	N11	-	VSS	GND
B11	-	VSS	GND	D24	O	ROE9	R DATA7	J23	I	VDDE	VDD(+3.3V)	N12	-	VSS	GND
B12	-	DA4_VRO	(Not used)	D25	I	VSIC	V-SYNC	J24	I	YINC5	Y DATA 3	N13	-	VSS	GND
B13	-	DA4_AOUT	(Not used)	D26	O	CLKOC	CLOCK	J25	I	YINC6	Y DATA 4	N14	-	VSS	GND
B14	-	DA3_AOUT	(Not used)	E1	I	MDINA2	MEMORY DATA2 FROM IC5004(GC3FM)	J26	I	YINC7	Y DATA 5	N15	-	VSS	GND
B15	-	DA2_AOUT	(Not used)	E2	I	MDINA1	MEMORY DATA1 FROM IC5004(GC3FM)	K1	O	MDOA13	MEMORY DATA13 TO IC5004(GC3FM)	N16	-	VSS	GND
B16	-	DA1_AOUT	(Not used)	E3	I	CLKA	27MHZ CLOCK	K2	O	MDOA12	MEMORY DATA12 TO IC5004(GC3FM)	N17	-	VSS	GND
B17	-	DA1_VRO	(Not used)	E4	I	MDINA0	MEMORY DATA0 FROM IC5004(GC3FM)	K3	O	MDOA11	MEMORY DATA11 TO IC5004(GC3FM)	N22	I	VDDI	VDD(+1.8V)
B18	-	PLL2_AVS2	GND	E5	I	HSIA	H-SYNC	K4	O	MDOA10	MEMORY DATA10 TO IC5004(GC3FM)	N23	-	OSDIN13	(Not used)
B19	I	PLL2_VCI	PLL OSC CONTROL	E6	I	YGINB2	Y DATA2	K5	O	MDOA9	MEMORY DATA9 TO IC5004(GC3FM)	N24	-	OSDIN14	(Not used)
B20	-	VSS	GND	E7	I	VDDI	VDD(+1.8V)	K10	-	VSS	GND	N25	-	OSDIN15	(Not used)
B21	I	TCK	TEST CLOCK	E8	I	VDDI	VDD(+1.8V)	K11	-	VSS	GND	N26	-	OSDYS	(Not used)
B22	-	HFR	(Not used)	E9	-	VRINB6	(Not used)	K12	-	VSS	GND	P1	-	PLL1_AVS	GND
B23	-	BOE1	(Not used)	E10	-	VRINB1	(Not used)	K13	-	VSS	GND	P2	-	PLL1_AVS2	GND
B24	O	ROE2	R DATA0	E11	-	VSS	GND	K14	-	VSS	GND	P3	I	PLL1_AVD1	VDD(+3.3V)
B25	O	ROE5	R DATA3	E12	I	DA4_AVD1	VDD(+3.3V)	K15	-	VSS	GND	P4	I	PLL1_AVD2	VDD(+3.3V)
B26	O	ROE4	R DATA2	E13	I	DA4_AVD2	VDD(+3.3V)	K16	-	VSS	GND	P5	-	VSS	GND
C1	I	YUVINA6	YUV DATA6	E14	I	DA3_AVD1	VDD(+3.3V)	K17	-	VSS	GND	P10	-	VSS	GND
C2	I	YUVINA5	YUV DATA5	E15	I	DA3_AVD2	VDD(+3.3V)	K22	-	VSS	GND	P11	-	VSS	GND
C3	I	YUVINA4	YUV DATA4	E16	I	DA2_AVD1	VDD(+3.3V)	K23	I	VDDE	VDD(+3.3V)	P12	-	VSS	GND
C4	I	YUVINA3	YUV DATA3	E17	I	DA1_AVD2	VDD(+3.3V)	K24	I	YINC2	Y DATA 0	P13	-	VSS	GND
C5	I	YGINB7	Y DATA7	E18	-	VSS	GND	K25	I	YINC3	Y DATA 1	P14	-	VSS	GND
C6	I	YGINB3	Y DATA3	E19	-	VSS	GND	K26	I	YINC4	Y DATA 2	P15	-	VSS	GND
C7	I	VRINB7	UV DATA7	E20	I	TRST	TEST RESET	L1	O	MDOA15	MEMORY DATA15 TO IC5004(GC3FM)	P16	-	VSS	GND
C8	I	VRINB3	UV DATA3	E21	-	TEST	(Not used)	L2	I	MVPINA	V-SYNC FROM IC5004(GC3FM)	P17	-	VSS	GND
C9	I	UBINB0	UV DATA0	E22	I	VDDE	VDD(+3.3V)	L3	I	MHPINA	H-SYNC FROM IC5004(GC3FM)	P22	-	VSS	GND
C10	I	VRINB3	ENB FROM HDMI	E23	I	UVINC7	C DATA 5	L4	I	MCLKA	CLOCK FROM IC5004(GC3FM)	P23	I	VDDE	VDD(+3.3V)
C11	-	VRINB0	(Not used)	E24	I	UNINC8	C DATA 6	L5	O	MDOA14	MEMORY DATA14 TO IC5004(GC3FM)	P24	-	OSDIN10	(Not used)
C12	-	VSS	GND	E25	I	UVINC9	C DATA 7	L10	-	VSS	GND	P25	-	OSDIN11	(Not used)
C13	-	DA4_AVS2	GND	E26	I	HSIC	H-SYNC	L11	-	VSS	GND	P26	-	OSDIN12	(Not used)

I/O CHART OF IC5301 (2/2)

Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description
R1	I	DA5_VREF	V-REF FOR D/A 5	W2	O	GOE6	G DATA 4	AC11	I	VDDE	VDD(+3.3V)	AE24	I/O	DQB20	SDRAM DATA 20 OF IC5304
R2	O	DA5_VRO	V-REF	W3	O	GOE7	G DATA 5	AC12	I	VDDE	VDD(+3.3V)	AE25	I/O	DQB18	SDRAM DATA 18 OF IC5304
R3	O	DA5_AOUT	CLOCK	W4	I	VDDE	VDD(+3.3V)	AC13	I	VDDE	VDD(+3.3V)	AE26	I/O	DQB16	SDRAM DATA 16 OF IC5304
R4	-	DA5_AVS	GND	W5	O	GOE8	G DATA 6	AC14	-	VSS	GND	AF1	-	NC	(Not used)
R5	I	DA5_AVD	VDD(+3.3V)	W22	-	VSS	GND	AC15	-	VSS	GND	AF2	O	AA6	SDRAM ADDRESS 6 OF IC5306
R10	-	VSS	GND	W23	I	VDDE	VDD(+3.3V)	AC16	-	VSS	GND	AF3	O	AA4	SDRAM ADDRESS 4 OF IC5306
R11	-	VSS	GND	W24	O	HSOE	H-SYNC	AC17	I	VDDE	VDD(+3.3V)	AF4	I/O	DQA30	SDRAM DATA 30 OF IC5306
R12	-	VSS	GND	W25	O	VSOE	V-SYNC	AC18	I	VDDE	VDD(+3.3V)	AF5	I/O	DQA27	SDRAM DATA 27 OF IC5306
R13	-	VSS	GND	W26	O	BOE5	B DATA 3	AC19	I	VDDE	VDD(+3.3V)	AF6	I/O	DQA24	SDRAM DATA 24 OF IC5306
R14	-	VSS	GND	Y1	O	BOE9	B DATA 7	AC20	O	AB7	SDRAM ADDRESS 7 OF IC5304	AF7	I/O	DQA21	SDRAM DATA 21 OF IC5306
R15	-	VSS	GND	Y2	O	GOE2	G DATA 0	AC21	O	AB3	SDRAM ADDRESS 3 OF IC5304	AF8	I/O	DQA16	SDRAM DATA 16 OF IC5306
R16	-	VSS	GND	Y3	O	GOE3	G DATA 1	AC22	I/O	DQB28	SDRAM DATA 28 OF IC5304	AF9	O	BAA1	BANK SELECT 1 OF IC5306
R17	-	VSS	GND	Y4	I	VDDE	VDD(+3.3V)	AC23	I	VDDE	VDD(+3.3V)	AF10	I/O	DQA7	SDRAM DATA 7 OF IC5306
R22	-	VSS	GND	Y5	O	GOE4	G DATA 2	AC24	O	AB0	SDRAM ADDRESS 0 OF IC5304	AF11	I/O	DQA3	SDRAM DATA 3 OF IC5306
R23	I	VDDE	VDD(+3.3V)	Y22	I/O	DQB3	SDRAM DATA 3 OF IC5304	AC25	O	AB10	SDRAM ADDRESS 10 OF IC5304	AF12	I/O	DQA0	SDRAM DATA 0 OF IC5306
R24	-	OSDIN7	(Not used)	Y23	I/O	DQB2	SDRAM DATA 2 OF IC5304	AC26	O	BAB1	BANK SELECT 1 OF IC5304	AF13	-	VSS	GND
R25	-	OSDIN8	(Not used)	Y24	I/O	DQB1	SDRAM DATA 1 OF IC5304	AD1	O	AA9	SDRAM ADDRESS 9 OF IC5306	AF14	O	PLL3_VCPO	PLL3 PHASE COMP.
R26	-	OSDIN9	(Not used)	Y25	I/O	DQB0	SDRAM DATA 0 OF IC5304	AD2	O	SDCKEA	SDRAM CKE OF IC5306	AF15	-	PLL3_VGS	GND
T1	O	AD1_VR	V-REF	Y26	O	CLKE	CLOCK	AD3	-	SDCLKIA	(Not used)	AF16	-	VSS	GND
T2	-	AD1_VIN3	(Not used)	AA1	O	BOE6	B DATA 4	AD4	O	AA3	SDRAM ADDRESS 3 OF IC5306	AF17	I/O	DQB13	SDRAM DATA 13 OF IC5304
T3	-	AD1_VIN2	(Not used)	AA2	O	BOE7	B DATA 5	AD5	I/O	DQA29	SDRAM DATA 29 OF IC5306	AF18	I/O	DQB9	SDRAM DATA 9 OF IC5304
T4	-	AD1_VIN1	(Not used)	AA3	O	BOE8	B DATA 6	AD6	I/O	DQA26	SDRAM DATA 26 OF IC5306	AF19	O	AB9	SDRAM ADDRESS 9 OF IC5304
T5	-	VSS	GND	AA4	-	GOE1	(Not used)	AD7	I/O	DQA23	SDRAM DATA 23 OF IC5306	AF20	O	AB4	SDRAM ADDRESS 4 OF IC5304
T10	-	VSS	GND	AA5	-	GOE0	(Not used)	AD8	I/O	DQA18	SDRAM DATA 18 OF IC5306	AF21	I/O	DQB29	SDRAM DATA 29 OF IC5304
T11	-	VSS	GND	AA22	O	WEB	WRITE ENABLE OF IC5304	AD9	O	AA0	SDRAM ADDRESS 0 OF IC5306	AF22	I/O	DQB25	SDRAM DATA 25 OF IC5304
T12	-	VSS	GND	AA23	I/O	DQB7	SDRAM DATA 7 OF IC5304	AD10	O	CASA	CURUMN ADDRESS STROBE OF IC5306	AF23	I/O	DQB22	SDRAM DATA 22 OF IC5304
T13	-	VSS	GND	AA24	I/O	DQB6	SDRAM DATA 6 OF IC5304	AD11	I/O	DQA5	SDRAM DATA 5 OF IC5306	AF24	I/O	DQB19	SDRAM DATA 19 OF IC5304
T14	-	VSS	GND	AA25	I/O	DQB5	SDRAM DATA 5 OF IC5304	AD12	I/O	DQA2	SDRAM DATA 2 OF IC5306	AF25	I/O	DQB17	SDRAM DATA 17 OF IC5304
T15	-	VSS	GND	AA26	I/O	DQB4	SDRAM DATA 4 OF IC5304	AD13	-	VSS	GND	AF26	-	NC	(Not used)
T16	-	VSS	GND	AB1	I/O	DQA11	SDRAM DATA 11 OF IC5306	AD14	-	VSS	GND				
T17	-	VSS	GND	AB2	I/O	DQA12	SDRAM DATA 12 OF IC5306	AD15	-	VSS	GND				
T22	I	VDDI	VDD(+1.8V)	AB3	I/O	DQA13	SDRAM DATA 13 OF IC5306	AD16	-	VSS	GND				
T23	I	VDDE	VDD(+3.3V)	AB4	I/O	DQA14	SDRAM DATA 14 OF IC5306	AD17	I/O	DQB15	SDRAM DATA 15 OF IC5304				
T24	-	OSDIN4	(Not used)	AB5	I/O	DQA15	SDRAM DATA 15 OF IC5306	AD18	I/O	DQB11	SDRAM DATA 11 OF IC5304				
T25	-	OSDIN5	(Not used)	AB6	I	VDDI	VDD(+1.8V)	AD19	O	SDCLKOB	SDRAM CLOCK OF IC5304				
T26	-	OSDIN6	(Not used)	AB7	I	VDDI	VDD(+1.8V)	AD20	O	AB6	SDRAM ADDRESS 6 OF IC5304				
U1	-	AD1_AVS	GND	AB8	I/O	DQA20	SDRAM DATA 20 OF IC5306	AD21	I/O	DQB31	SDRAM DATA 31 OF IC5304				
U2	I	AD1_AVD	VDD(+3.3V)	AB9	O	AA2	SDRAM ADDRESS 2 OF IC5306	AD22	I/O	DQB27	SDRAM DATA 27 OF IC5304				
U3	-	VSS	GND	AB10	O	BAA0	BANK SELECT 1 OF IC5306	AD23	I/O	DQB24	SDRAM DATA 24 OF IC5304				
U4	-	VSS	GND	AB11	I/O	DQA6	SDRAM DATA 6 OF IC5306	AD24	I/O	DQB21	SDRAM DATA 21 OF IC5304				
U5	I	VDDI	VDD(+1.8V)	AB12	I	VDDI	VDD(+1.8V)	AD25	O	AB2	SDRAM ADDRESS 2 OF IC5304				
U10	-	VSS	GND	AB13	I	VDDI	VDD(+1.8V)	AD26	O	AB1	SDRAM ADDRESS 1 OF IC5304				
U11	-	VSS	GND	AB14	-	VSS	GND	AE1	O	AA7	SDRAM ADDRESS 7 OF IC5306				
U12	-	VSS	GND	AB15	-	VSS	GND	AE2	O	AA8	SDRAM ADDRESS 8 OF IC5306				
U13	-	VSS	GND	AB16	I	VDDI	VDD(+1.8V)	AE3	O	AA5	SDRAM ADDRESS 5 OF IC5306				
U14	-	VSS	GND	AB17	I	VDDI	VDD(+1.8V)	AE4	I/O	DQA31	SDRAM DATA 31 OF IC5306				
U15	-	VSS	GND	AB18	I/O	DQB12	SDRAM DATA 12 OF IC5304	AE5	I/O	DQA28	SDRAM DATA 28 OF IC5306				
U16	-	VSS	GND	AB19	I/O	DQB8	SDRAM DATA 8 OF IC5304	AE6	I/O	DQA25	SDRAM DATA 25 OF IC5306				
U17	-	VSS	GND	AB20	O	AB8	SDRAM ADDRESS 8 OF IC5304	AE7	I/O	DQA22	SDRAM DATA 22 OF IC5306				
U22	I	VDDI	VDD(+1.8V)	AB21	I	VDDI	VDD(+1.8V)	AE8	I/O	DQA17	SDRAM DATA 17 OF IC5306				
U23	-	OSDIN0	(Not used)	AB22	I	VDDI	VDD(+1.8V)	AE9	O	AA10	SDRAM ADDRESS 10 OF IC5306				
U24	-	OSDIN1	(Not used)	AB23	I	VDDE	VDD(+3.3V)	AE10	O	WEA	WRITE ENABLE OF IC5306				
U25	-	OSDIN2	(Not used)	AB24	O	BAB0	BANK SELECT 0 OF IC5304	AE11	I/O	DQA4	SDRAM DATA 4 OF IC5306				
U26	-	OSDIN3	(Not used)	AB25	O	RASB	ROAD ADDRESS STROBE OF IC5304	AE12	I/O	DQA1	SDRAM DATA 1 OF IC5306				
V1	-	VSS	GND	AB26	O	CASB	CURUMN ADDRESS STROBE OF IC5304	AE13	-	VSS	GND				
V2	-	VSS	GND	AC1	O	SDCLKOA	SDRAM CLOCK OF IC5306	AE14	I	PLL3_AVD	VDD(+1.8V)				
V3	O	GOE9	G DATA 7	AC2	I/O	DQA8	SDRAM DATA 8 OF IC5306	AE15	-	PLL3_AVS	GND				
V4	I	VDDE	VDD(+3.3V)	AC3	I/O	DQA9	SDRAM DATA 9 OF IC5306	AE16	-	VSS	GND				
V5	I	VDDI	VDD(+1.8V)	AC4	I/O	DQA10	SDRAM DATA 10 OF IC5306	AE17	I/O	DQB14	SDRAM DATA 14 OF IC5304				
V22	-	VSS	GND	AC5	I	VDDE	VDD(+3.3V)	AE18	I/O	DQB10	SDRAM DATA 10 OF IC5304				
V23	I	VDDE	VDD(+3.3V)	AC6	I	VDDE	VDD(+3.3V)	AE19	O	SDCKEB	SDRAM CKE OF IC5304				
V24	O	BOE4	B DATA 2	AC7	I	VDDE	VDD(+3.3V)	AE20	O	AB5	SDRAM ADDRESS 5 OF IC5304				
V25	O	BOE3	B DATA 1	AC8	I/O	DQA19	SDRAM DATA 19 OF IC5306	AE21	I/O	DQB30	SDRAM DATA 30 OF IC5304				
V26	O	BOE2	B DATA 0	AC9	O	AA1	SDRAM ADDRESS 1 OF IC5306	AE22	I/O	DQB26	SDRAM DATA 26 OF IC5304				
W1	O	GOE5	G DATA 3	AC10	O	RASA	ROAD ADDRESS STROBE OF IC5304	AE23	I/O	DQB23	SDRAM DATA 23 OF IC5304				

CHECKING POINT OF IC5301

Pin	Name	Voltage	Check Point		WF No.	Remarks
B24	ROE2	0.7	R5323 (LEFT)		WF94	COMPONENT SIDE
A25	ROE3	0.7				
B26	ROE4	1.0				
B25	ROE5	0.4				
C26	ROE6	2.9	R5324 (LEFT)		WF94	COMPONENT SIDE
C25	ROE7	0.7				
C24	ROE8	1.0				
D24	ROE9	1.1				
Y2	GOE2	0.7	R5365 (RIGHT)		WF95	COMPONENT SIDE
Y3	GOE3	0.9				
Y5	GOE4	0.6				
W1	GOE5	1.0				
W2	GOE6	0.7	R5364 (RIGHT)		WF95	COMPONENT SIDE
W3	GOE7	0.9				
W5	GOE8	0.8				
V3	GOE9	1.2				
V26	BOE2	0.9	R5341 (LEFT)		WF96	COMPONENT SIDE
V25	BOE3	0.8				
V24	BOE4	1.1				
W26	BOE5	0.5				
AA1	BOE6	0.9	R5366 (RIGHT)		WF96	COMPONENT SIDE
AA2	BOE7	1.3				
AA3	BOE8	0.9				
Y1	BOE9	1.2				
B3	YUVINA0	1.1	R5063 (UPPER )		WF46	COMPONENT SIDE
B2	YUVINA1	1.1				
B1	YUVINA2	0.9				
C4	YUVINA3	0.9				
C3	YUVINA4	1.0	R5064 (UPPER )		WF46	COMPONENT SIDE
C2	YUVINA5	0.9				
C1	YUVINA6	0.8				
D4	YUVINA7	0.8				
D3	YUVINA8	1.2	R5065 (UPPER )		WF11	COMPONENT SIDE
D2	YUVINA9	0.8				
E5	HSIA	0.1		WF10		
D1	VSIA	0.1				
B7	YGINB0	1.9	R5133 (RIGHT)		WF35	COMPONENT SIDE
A7	YGINB1	2.0				
E6	YGINB2	2.0				
C6	YGINB3	2.7				
B6	YGINB4	2.2	R5120 (RIGHT)		WF35	COMPONENT SIDE
A6	YGINB5	2.2				
D5	YGINB6	1.3				
C5	YGINB7	1.0				

Pin	Name	Voltage	Check Point	WF No.	Remarks
C9	UBINB0	1.8	R5151 (RIGHT) 	WF36	COMPONENT SIDE
A9	UBINB1	0.6			
D8	UBINB2	0.7			
C8	UBINB3	0.7			
B8	UBINB4	0.6	R5144 (RIGHT) 		COMPONENT SIDE
A8	UBINB5	0.6			
D7	UBINB6	0.6			
C7	UBINB7	0.5			
A2	CLKINB2	0	R5306 (LEFT)	WF69	COMPONENT SIDE
A5	VSIB	0	R5113 (LOWER)	WF38	COMPONENT SIDE
A22	NRST	3.1	R5311 (LOWER)	—	FOIL SIDE
B5	HSIB	0	R5114 (LOWER)	WF39	COMPONENT SIDE
B9	CLKINB	1.6	R5158 (RIGHT)	WF37	COMPONENT SIDE
E3	CLKA	1.5	R5069 (RIGHT)	WF9	COMPONENT SIDE
L2	MVPINA	0	R5024 (RIGHT)	WF34	COMPONENT SIDE
L3	MHPINA	0	R5025 (RIGHT)	WF33	COMPONENT SIDE
L4	MCLKA	1.5	R5029 (RIGHT)	WF32	COMPONENT SIDE
E7 E8 E22 ⋮ etc.	VDDI	1.8	Pin 3 of IC5305	—	FOIL SIDE
D11 D12 D22 ⋮ etc.	VDDE	3.3	L5304 (LOWER)	—	FOIL SIDE
P3	PLL_AVD1	3.3	L5307 (RIGHT)	—	FOIL SIDE
P4	PLL_AVD2				
A11 A20 B11 ⋮ etc.	VSS (GND)	0	R5310 (RIGHT)	—	COMPONENT SIDE
P1	PLL_AVS1	0	C5346 (UPPER)	—	COMPONENT SIDE
P2	PLL_AVS2				

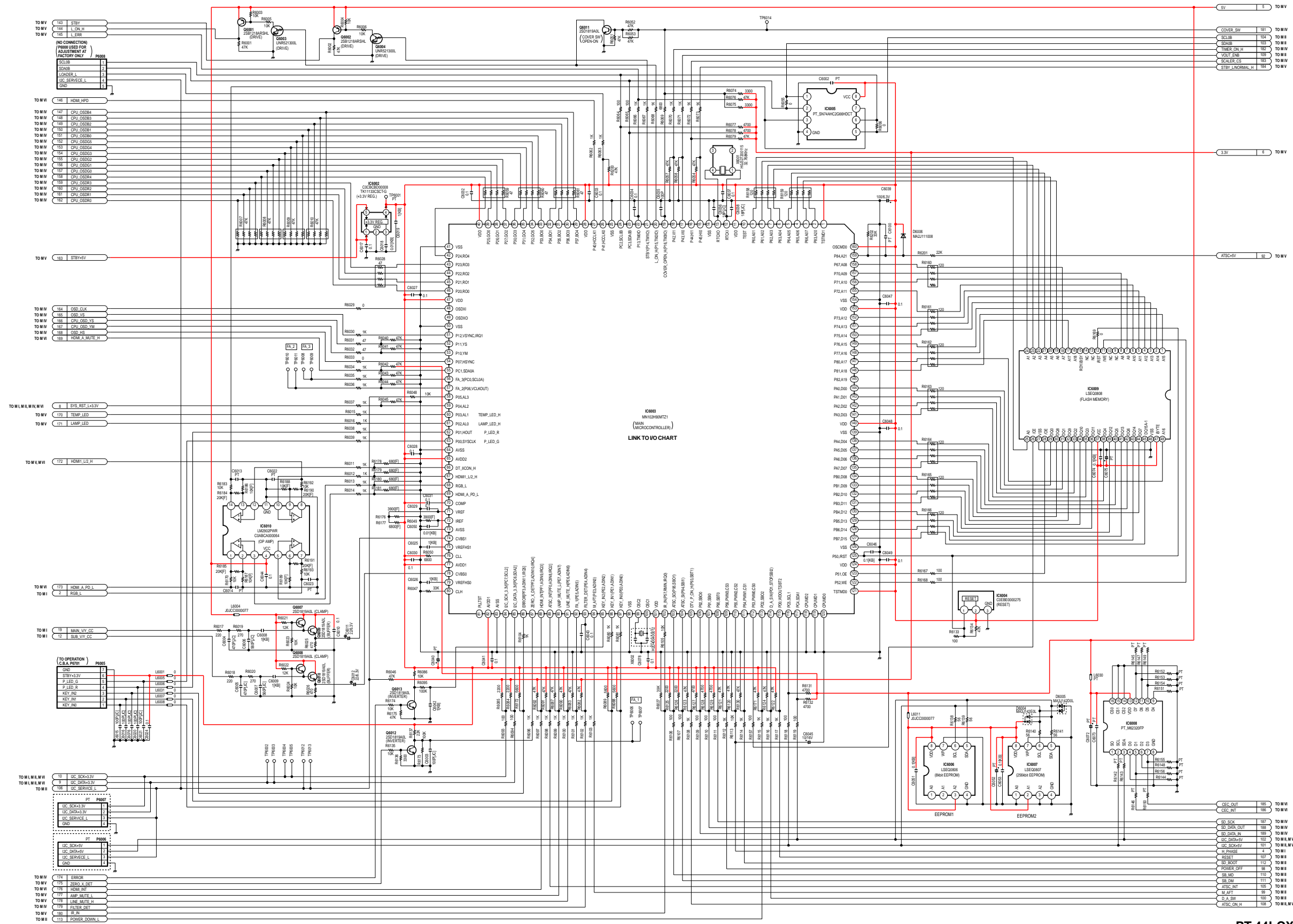


### MAIN III SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.



**LINK TO VOLTAGE CHART**

LSJB3150

### MAIN III SCHEMATIC DIAGRAM

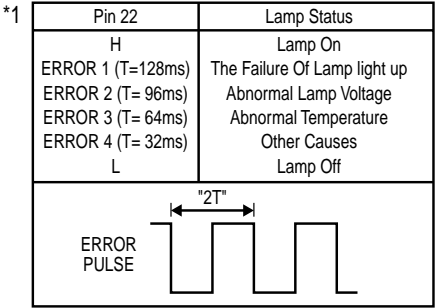
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

I/O CHART OF IC6003

Pin No.	I/O	Port No.	Signal Name	Description
1	-	-	TSTMD1	(Not used)
2	-	P83	A20	(Not used)
3	O	P66	A07	ADDRESS 7
4	O	P65	A06	ADDRESS 6
5	O	P64	A05	ADDRESS 5
6	O	P63	A04	ADDRESS 4
7	O	P62	A03	ADDRESS 3
8	O	P61	A02	ADDRESS 2
9	O	P60	A01	ADDRESS 1
10	-	-	TEST	(Not used)
11	I	-	VDD	VDD (+3.3V)
12	I	-	RTCXI	32.768kHz OSCILLATION
13	O	-	RTCXO	32.768kHz OSCILLATION
14	-	-	VSS	GND
15	O	P45	HI0	STANDBY (L) / POWER ON (H)
16	O	P44	HI1	SCALER CS (L)
17	O	P43	VI0	DIGITAL TUNER OUTPUT (H) / NO OUTPUT (L)
18	O	P42	VI1	LAMP ON (H) / OFF (L)
19	I	P16	COVER_OPEN_H	LAMP COVER OPEN (H) / CLOSE (L)
20	O	P15	L_ON_H	LAMP ON / OFF CONTROL (ON (H) / OFF (L))
21	O	P14	STBY	STANDBY (L) / POWER ON (H)
22	I	P13	TM0IO	LAMP ERROR PULSE (ON (H) / OFF (L) / ERROR (PULSE)) *1
23	I/O	PC3	SDA0B	SERIAL DATA
24	O	PC2	SCL0B	SERIAL CLOCK
25	-	-	VSS	GND
26	-	P41	HCCLK0	(Not used)
27	O	P40	HCCLK1	HDMI HOT PLUG DETECT
28	I	-	VDD	VDD (+3.3V)
29	O	P37	BO4	OSD-B DATA 4
30	O	P36	BO3	OSD-B DATA 3
31	O	P35	BO2	OSD-B DATA 2
32	O	P34	BO1	OSD-B DATA 1
33	O	P33	BO0	OSD-B DATA 0
34	O	P32	GO5	OSD-G DATA 5
35	O	P31	GO4	OSD-G DATA 4
36	O	P30	GO3	OSD-G DATA 3
37	O	P27	GO2	OSD-G DATA 2
38	O	P26	GO1	OSD-G DATA 1
39	O	P25	GO0	OSD-G DATA 0
40	I	-	VDD	VDD (+3.3V)
41	-	-	VSS	GND
42	O	P24	RO4	OSD-R DATA 4
43	O	P23	RO3	OSD-R DATA 3
44	O	P22	RO2	OSD-R DATA 2
45	O	P21	RO1	OSD-R DATA 1
46	O	P20	RO0	OSD-R DATA 0
47	I	-	VDD	VDD (+3.3V)
48	I	-	OSDXI	OSD CLOCK
49	-	-	OSDXO	(Not used)
50	-	-	VSS	GND
51	O	P12	VSYNC	OSD V-SYNC
52	O	P11	YS	OSD-YS
53	O	P10	YM	OSD-YM
54	O	P07	HSYNC	OSD H-SYNC
55	O	PC1	SDA0A	HDMI AUDIO MUTE (H)
56	-	PC0	FA_3	(Not used)
57	-	P06	FA_2	(Not used)
58	I	P05	AL3	I <sup>2</sup> C SERVICE (L)
59	O	P04	AL2	RESET (L)
60	O	P03	TEMP_LED_H	TEMP LED ON (H)

Pin No.	I/O	Port No.	Signal Name	Description
61	O	P02	LAMP_LED_H	LAMP LED ON (H)
62	O	P01	P_LED_R	POWER LED (RED) ON (L)
63	O	P00	P_LED_G	POWER LED (GREEN) ON (L)
64	-	-	AVSS	GND
65	I	-	AVDD2	VDD (+3.3V)
66	-	-	DT_IICON_H	(Not used)
67	O	-	HDMI1_L/S_H	HDMI 1 (L) / HDMI 2 (H)
68	O	-	RGB_L	RGB (L) / VIDEO (H)
69	O	-	HDMI_A_PD_L	HDMI AUDIO (IC5807) POWER DOWN (L)
70	-	-	COMP	(Not used)
71	I	-	VREF	V-REF FOR IC6003
72	-	-	IREF	(Not used)
73	-	-	AVSS	GND
74	I	-	CVBS1	MAIN COMPOSITE VIDEO
75	-	-	VREFHS1	(Not used)
76	-	-	CLL	(Not used)
77	I	-	AVDD1	VDD (+3.3V)
78	I	-	CVBS0	SUB COMPOSITE VIDEO
79	-	-	VREFHS0	(Not used)
80	-	-	CLH	(Not used)
81	-	-	PLLTST	(Not used)
82	I	-	AVDD1	VDD (+3.3V)
83	-	-	AVSS	GND
84	O	PC7	I2C_SCK_3.3V	I <sup>2</sup> C SERIAL CLOCK 0
85	I/O	PC6	I2C_DATA_3.3V	I <sup>2</sup> C SERIAL DATA 0
86	I	PF3	ERROR	KEY DATA 2
87	I	PF2	ZERO_X_DET	ZERO CROSS DETECT
88	I	PF1	HDMI_INT	MDMI INTERRUPT REQUEST
89	I	PF0	ATSC_INT	ATSC TUNER INTERRUPT REQUEST
90	O	PE7	AMP_MUTE_L	AUDIO AMP MUTE (L)
91	O	PE6	LINE_MUTE_H	LINE AUDIO OUT MUTE (H)
92	-	PE5	FA_1	(Not used)
93	I	PE4	FILTER_DET	CLOGGED FILTER DETECT (A/D INPUT)
94	I-	PE3	M_AFT	MAIN TUNER AFC
95	I	PE2	KEY_IN2	LCD DRIVE ERROR INFORMATION *2
96	I	PE1	KEY_IN1	KEY DATA 1
97	I	PE0	KEY_IN0	KEY DATA 0
98	-	-	VSS	GND
99	O	-	OSC2	4MHz OSCILLATION
100	I	-	OSC1	4MHz OSCILLATION
101	I	-	VDD	VDD (+3.3V)
102	I	P57	IR_IN	IR DATA
103	O	P95	ATSC_SO	ATSC SERIAL DATA 0
104	I	P94	ATSC_SI	ATSC SERIAL DATA 1
105	I	P93	DTV_P_ON_H	DIGITAL TUNER POWER ON (H)
106	O	P92	SBO0	SERIAL DATA 0
107	I	P91	SBIO	SERIAL DATA 1
108	O	P90	SBT0	SERIAL CLOCK
109	-	P56	PWM3	(Not used)
110	O	P55	PWM2	H PHASE CONTROL
111	O	P54	PWM1	SD BOOT (H)
112	O	P53	PWM0	IC6009 CS (L)
113	O	-	PDS	POWER DOWM (L)
114	O	-	D_A_SW	DIGITAL TUNER (L) / ANALOG TUNER (H)
115	O	PD1	WDOUT	DIGITAL TUNER RESET (L)
116	O	PD0	SCL1	I <sup>2</sup> C SERIAL CLOCK 1
117	I/O	PC5	SDA1	I <sup>2</sup> C SERIAL DATA 1
118	-	PC4	CPUMD2	(Not used)
119	-	-	CPUMD1	(Not used)
120	-	-	CPUMD0	(Not used)

Pin No.	I/O	Port No.	Signal Name	Description
121	-	-	TSTMD0	(Not used)
122	O	P52	WE	IC6009 WRITE ENABLE (L)
123	O	P51	OE	IC6009 OUTPUT ENABLE (L)
124	I	-	VDD	VDD (+3.3V)
125	I	P50	/RST	RESET (L)
126	-	-	VSS	GND
127	I/O	PB7	D15	DATA 15
128	I/O	PB6	D14	DATA 14
129	I/O	PB5	D13	DATA 13
130	I/O	PB4	D12	DATA 12
131	I/O	PB3	D11	DATA 11
132	I/O	PB2	D10	DATA 10
133	I/O	PB1	D09	DATA 9
134	I/O	PB0	D08	DATA 8
135	I/O	PA7	D07	DATA 7
136	I/O	PA6	D06	DATA 6
137	I/O	PA5	D05	DATA 5
138	I/O	PA4	D04	DATA 4
139	-	-	VSS	GND
140	I	-	VDD	VDD (+3.3V)
141	I/O	PA3	D03	DATA 3
142	I/O	PA2	D02	DATA 2
143	I/O	PA1	D01	DATA 1
144	I/O	PA0	D00	DATA 0
145	-	P82	A19	(Not used)
146	O	P81	A18	ADDRESS 18
147	O	P80	A17	ADDRESS 17
148	O	P77	A16	ADDRESS 16
149	O	P76	A15	ADDRESS 15
150	O	P75	A14	ADDRESS 14
151	O	P74	A13	ADDRESS 13
152	O	P73	A12	ADDRESS 12
153	I	-	VDD	VDD (+3.3V)
154	-	-	VSS	GND
155	O	P72	A11	ADDRESS 11
156	O	P71	A10	ADDRESS 10
157	O	P70	A09	ADDRESS 9
158	O	P67	A08	ADDRESS 8
159	-	P84	A21	(Not used)
160	-	-	OSCMD0	(Not used)



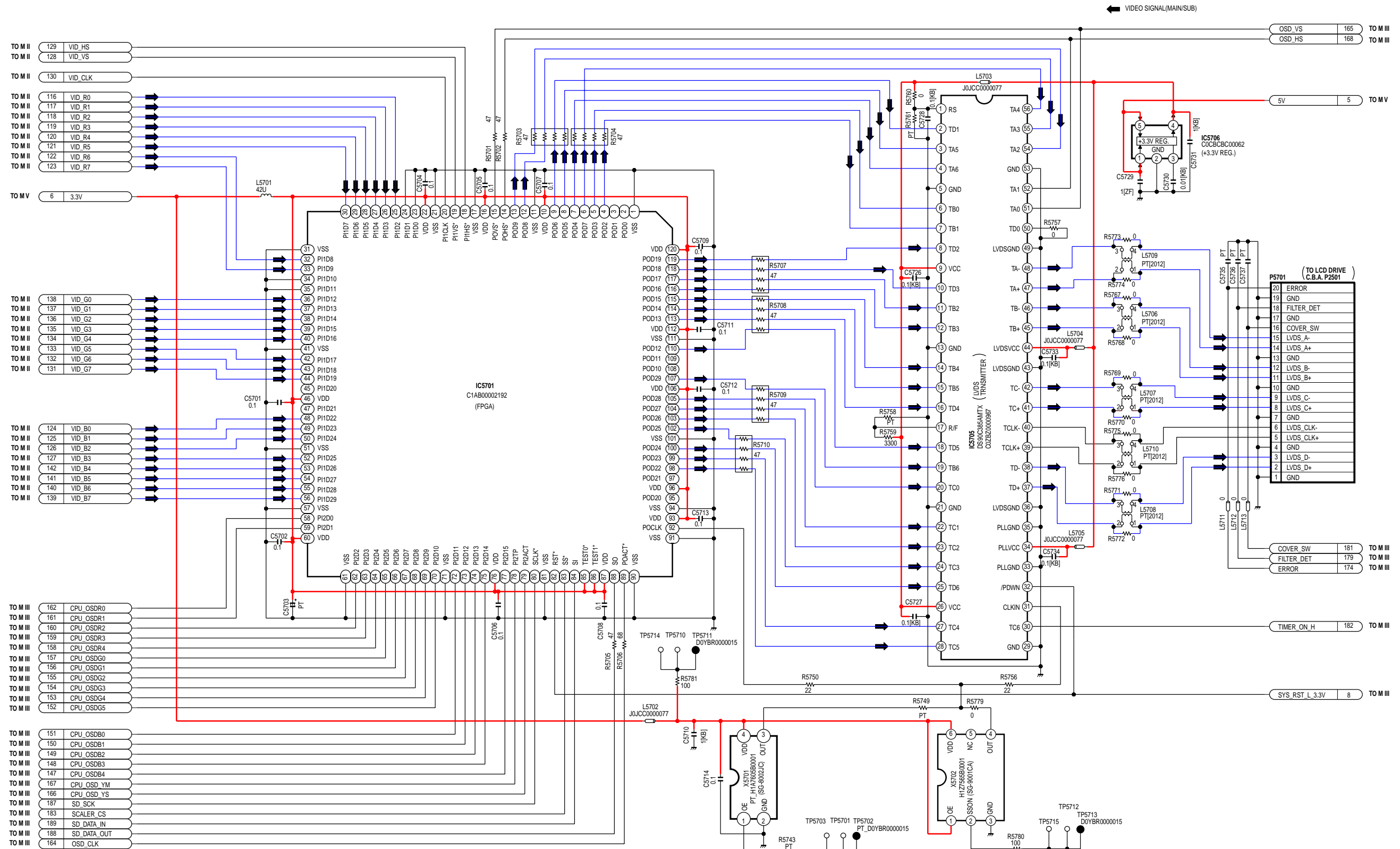
*2	ERROR INFORMATION	ERROR VOLTAGE
	Temperature Sensor shorted or open (Thermistor 1 C.B.A.)	2.71V - 3.09V
	Abnormal Temperature (Thermistor 1 C.B.A.)	2.31V - 2.69V
	Temperature Sensor shorted or open (Thermistor 2 C.B.A.)	1.86V - 2.29V
	Abnormal Temperature (Thermistor 2 C.B.A.)	1.42V - 1.84V
	Fan 1 Lock	1.02V - 1.40V
	Fan 2 Lock	0.62V - 1.00V
	Fan 3 Lock	0.22V - 0.60V

## MAIN IV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

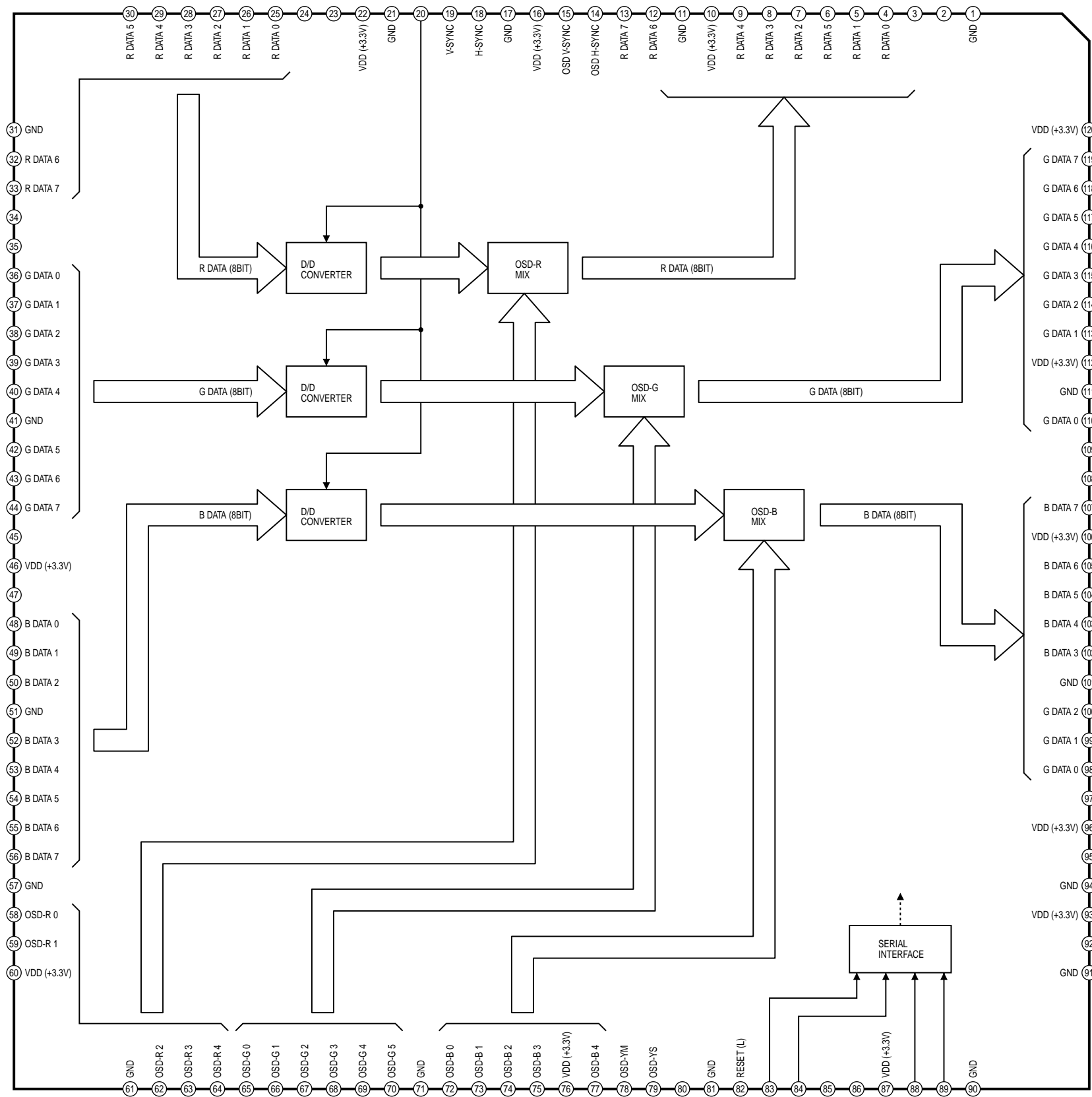
NOTE:  
PARTS MARKED "PT" ARE NOT USED.



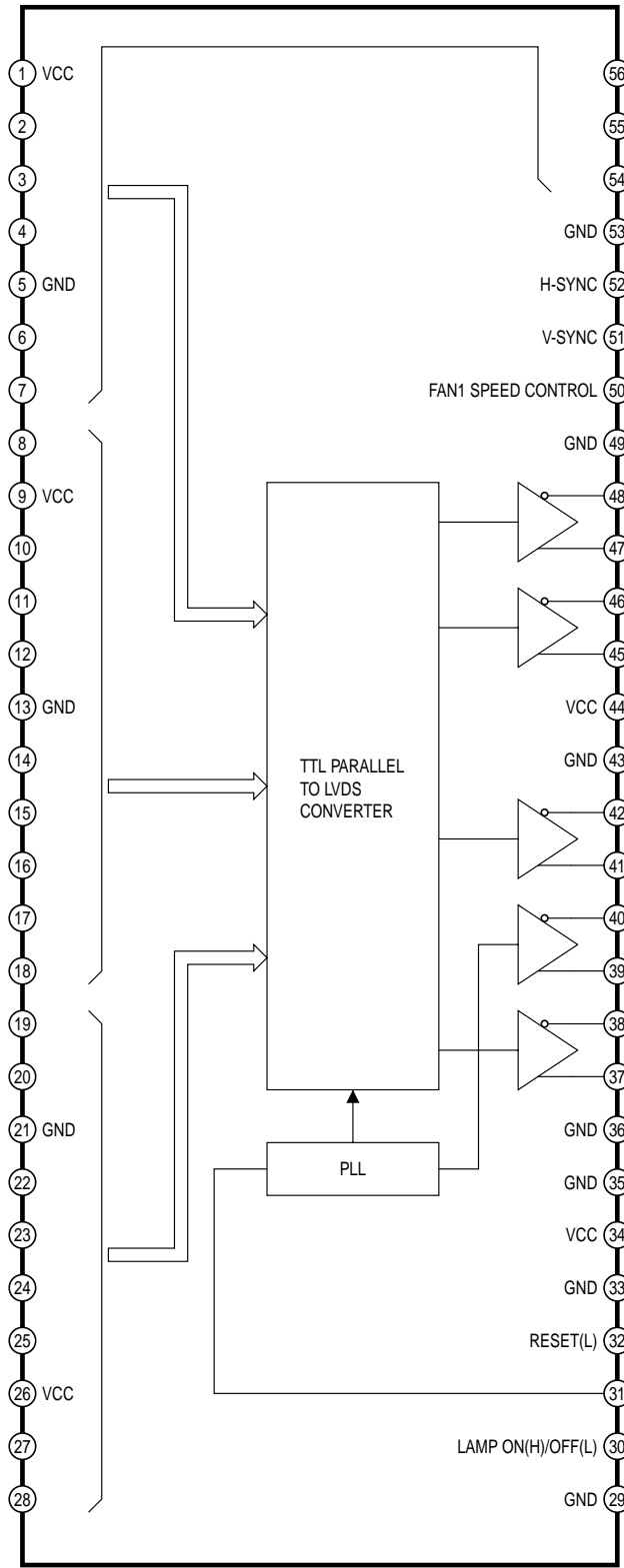
[LINK TO VOLTAGE CHART](#)

LSJB3150  
MAIN IV SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

IC5701 DETAIL BLOCK DIAGRAM



IC5705 DETAIL BLOCK DIAGRAM



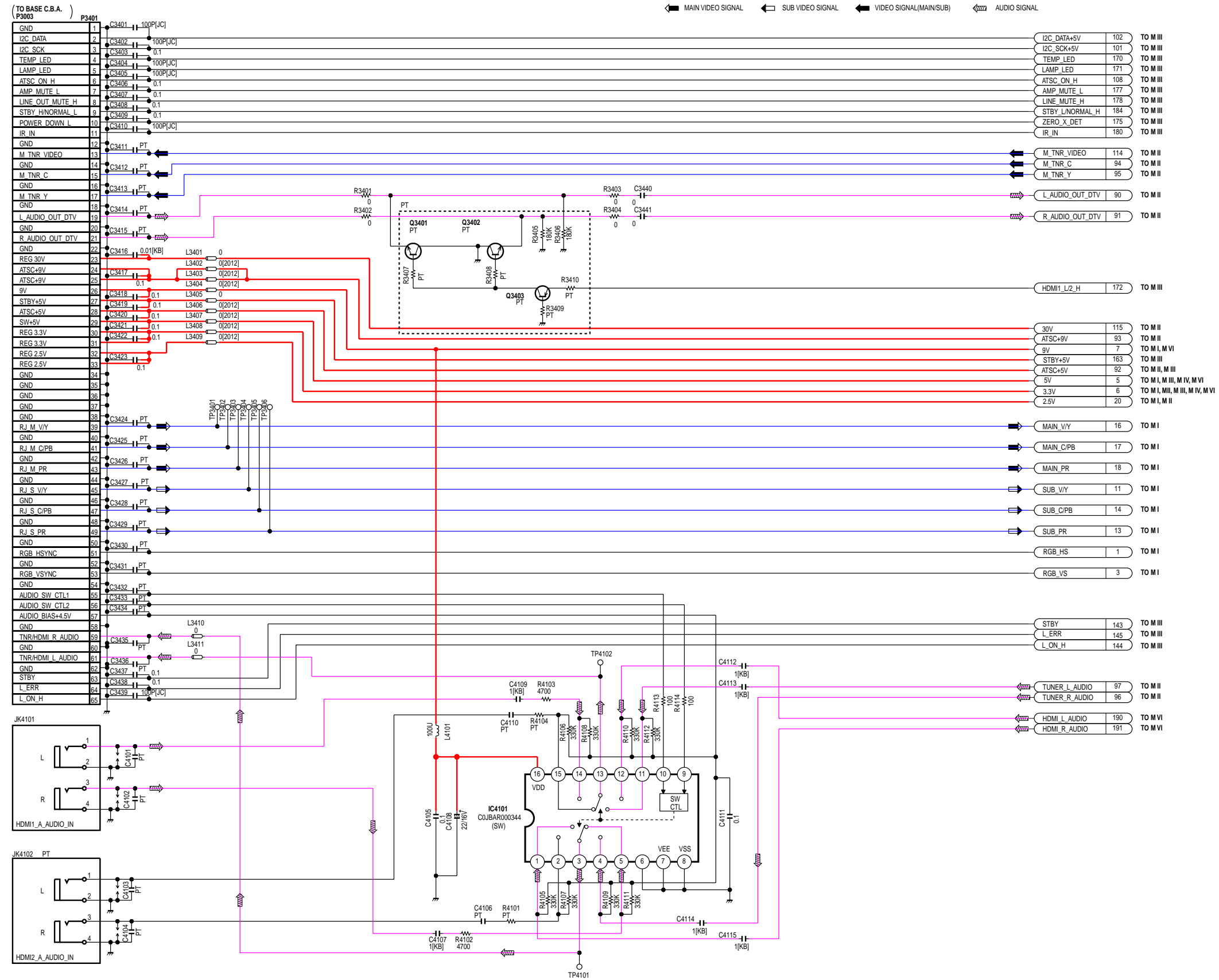
IC5701 DETAIL BLOCK DIAGRAM  
IC5705 DETAIL BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

## MAIN V SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

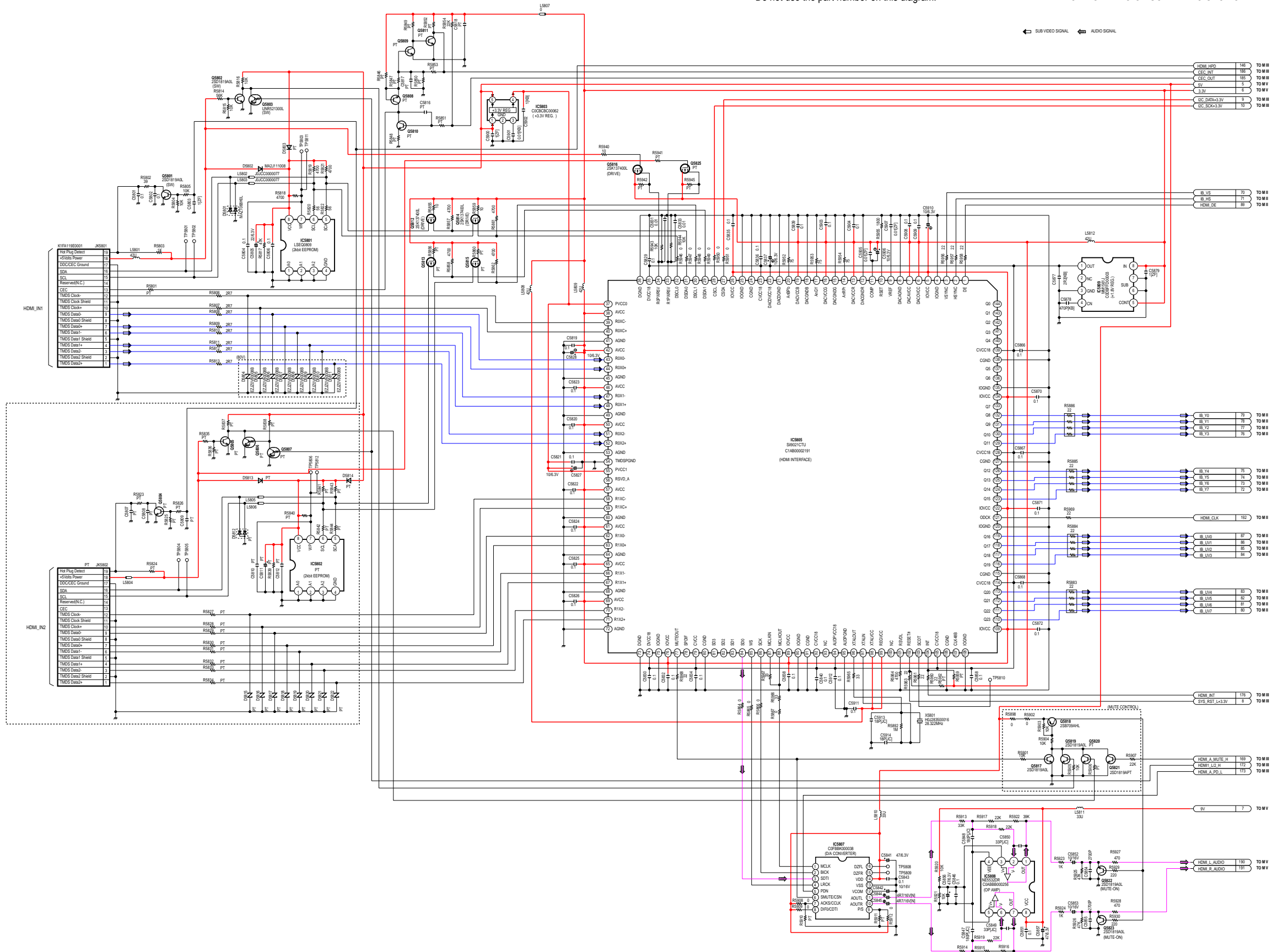
NOTE:  
PARTS MARKED "PT" ARE NOT USED.



**LINK TO VOLTAGE CHART**

LSJB3150  
MAIN V SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

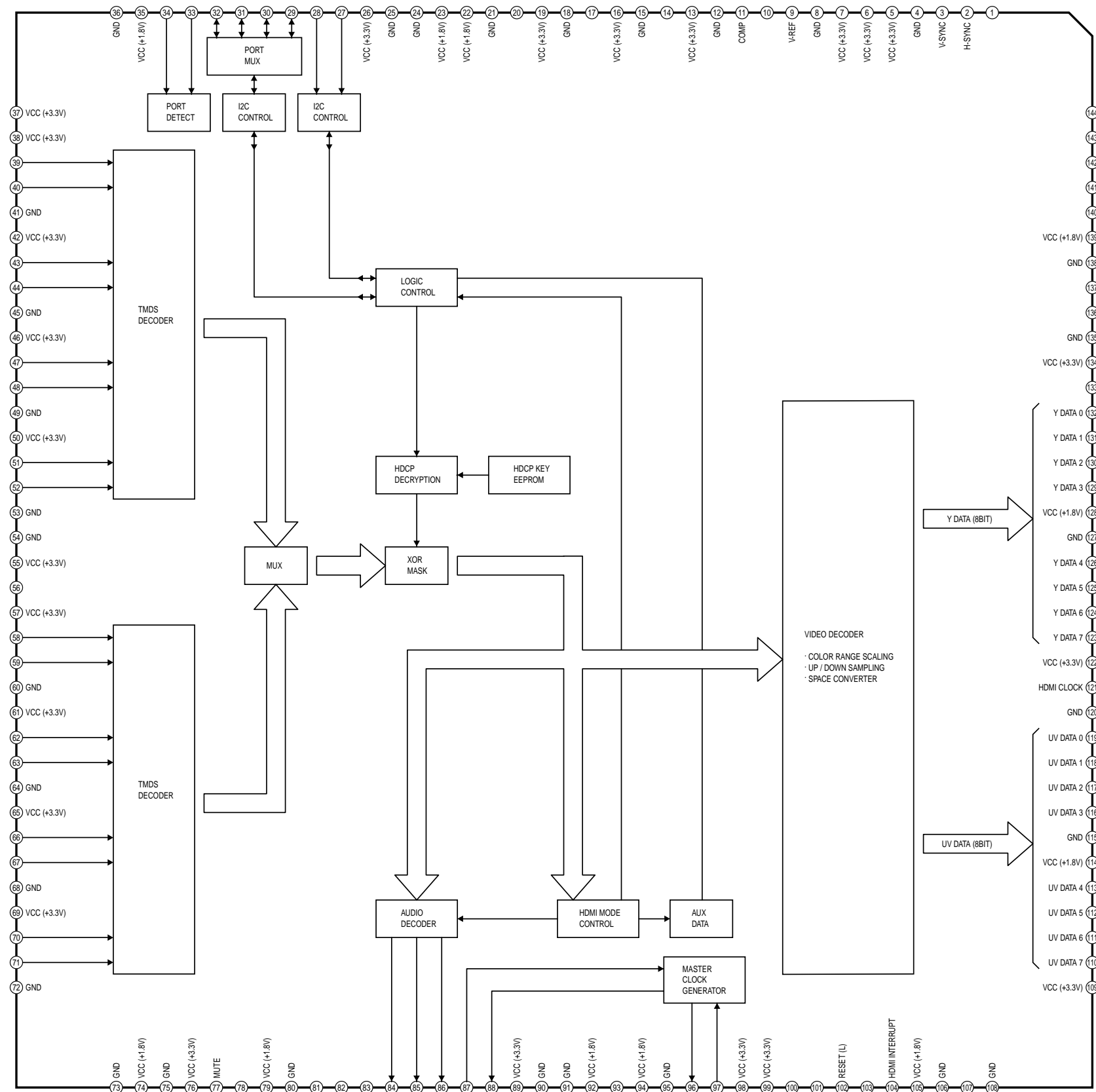
NOTE:  
PARTS MARKED "PT" ARE NOT USED.



## LINK TO VOLTAGE CHART

LSJB3150  
MAIN VI SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

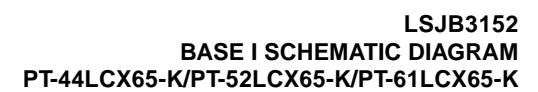
IC5805 DETAIL BLOCK DIAGRAM



IC5805 DETAIL BLOCK DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

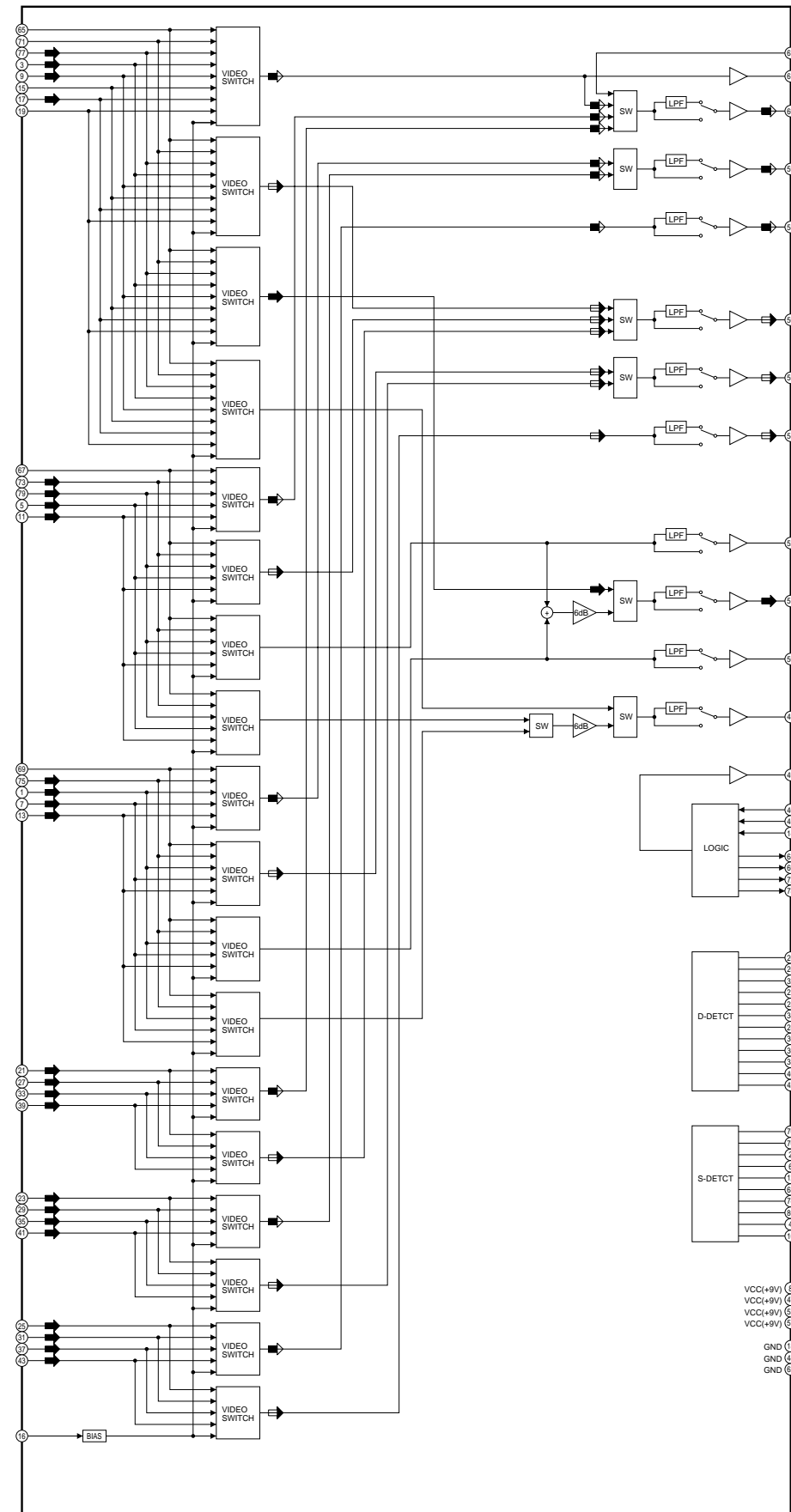


NOTE:  
PARTS MARKED "PT" ARE NOT USED.

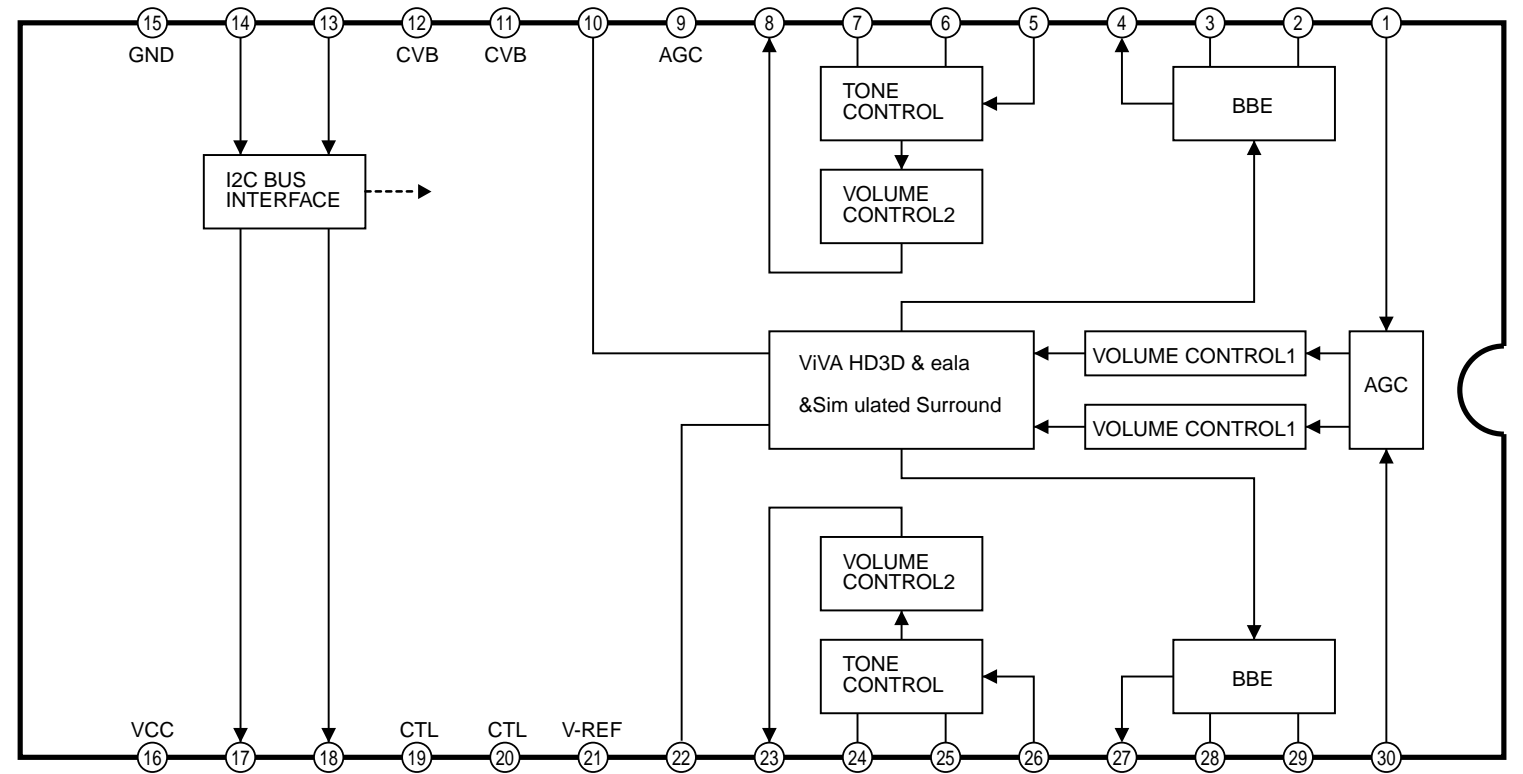




IC3001 DETAIL BLOCK DIAGRAM



IC4201 DETAIL BLOCK DIAGRAM

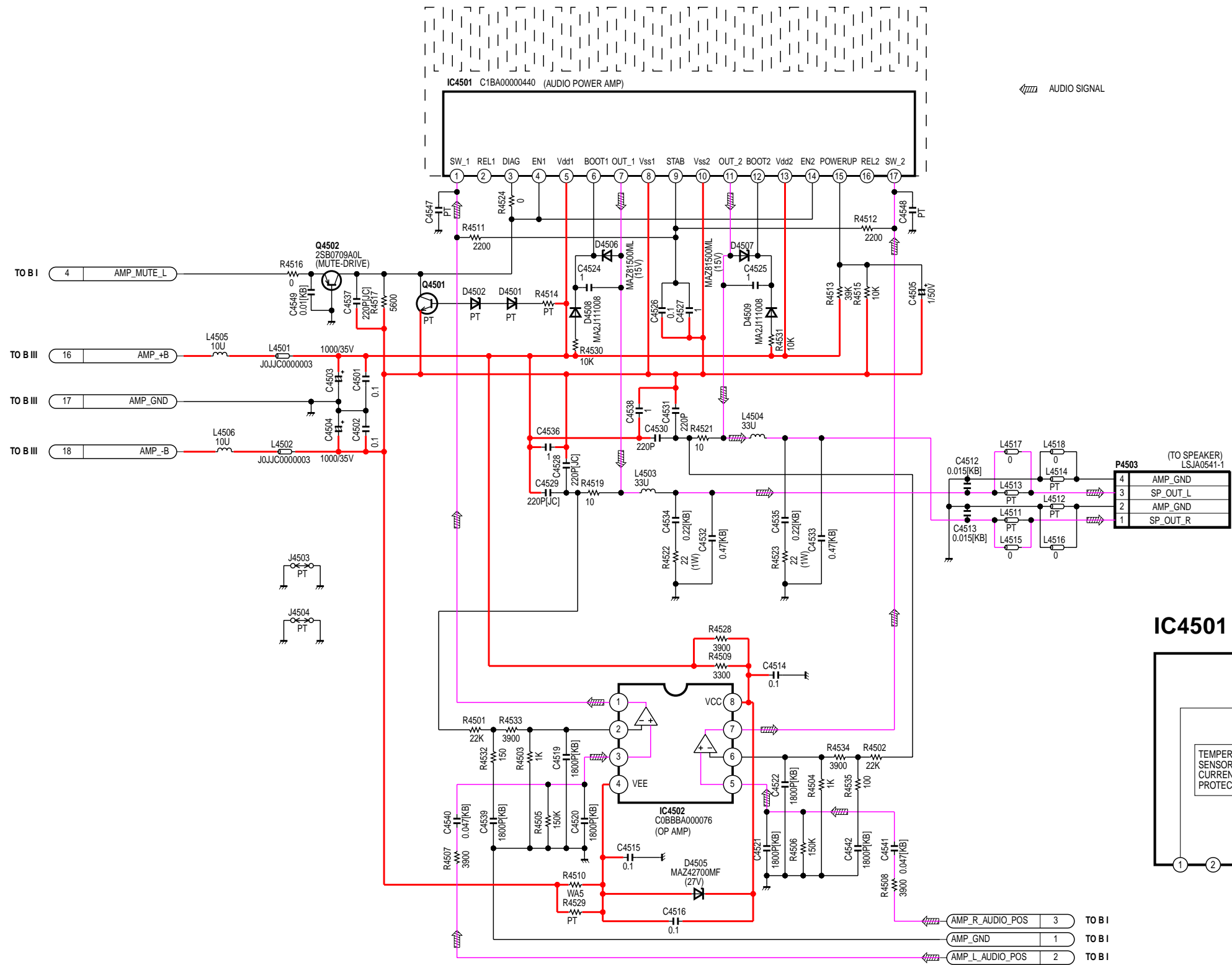


BASE II SCHEMATIC DIAGRAM

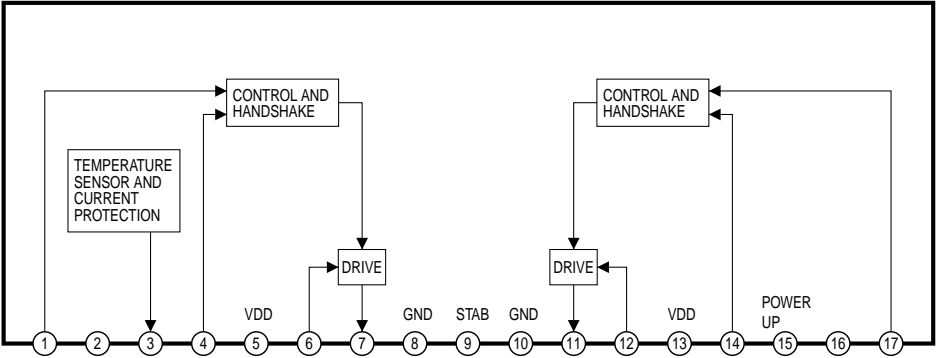
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: PARTS MARKED "PT" ARE NOT USED.



IC4501 DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

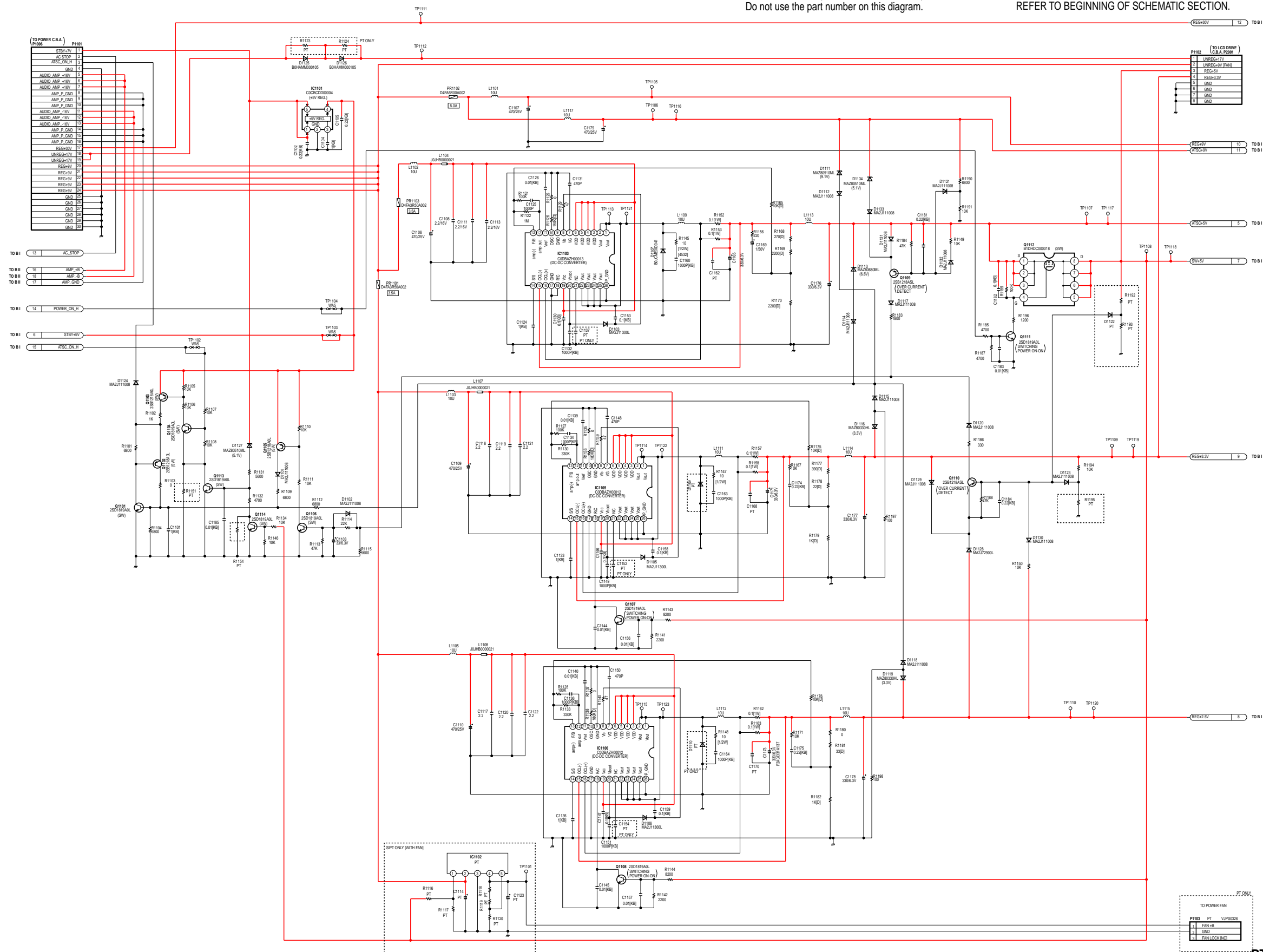
LSJB3152  
BASE II SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

# BASE III SCHEMATIC DIAGRAM

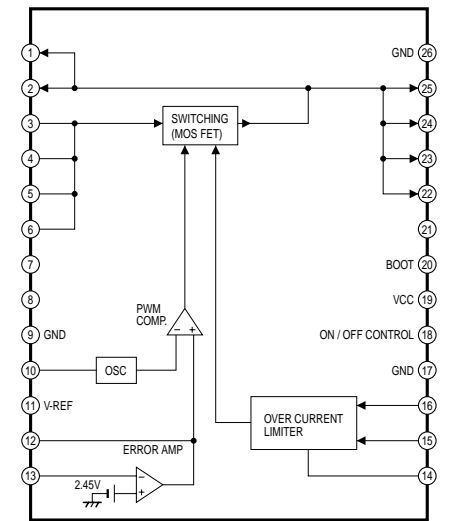
NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

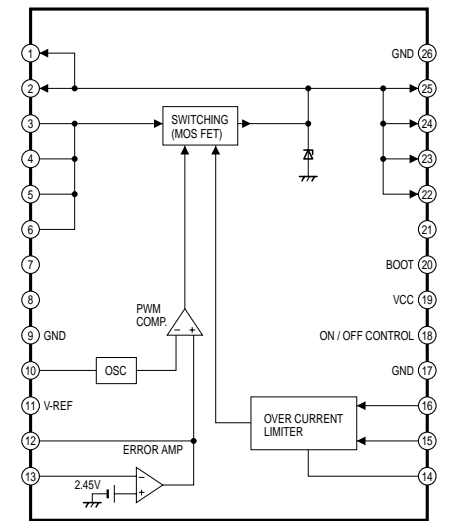
NOTE:  
PARTS MARKED "PT" ARE NOT USED.



## IC1103 DETAIL BLOCK DIAGRAM



## IC1105 / IC1106 DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB3152

BASE III SCHEMATIC DIAGRAM

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

12.5. POWER SCHEMATIC DIAGRAMS

POWER I SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 6.3A 125V/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME  
TYPE 6.3A 125V/250V



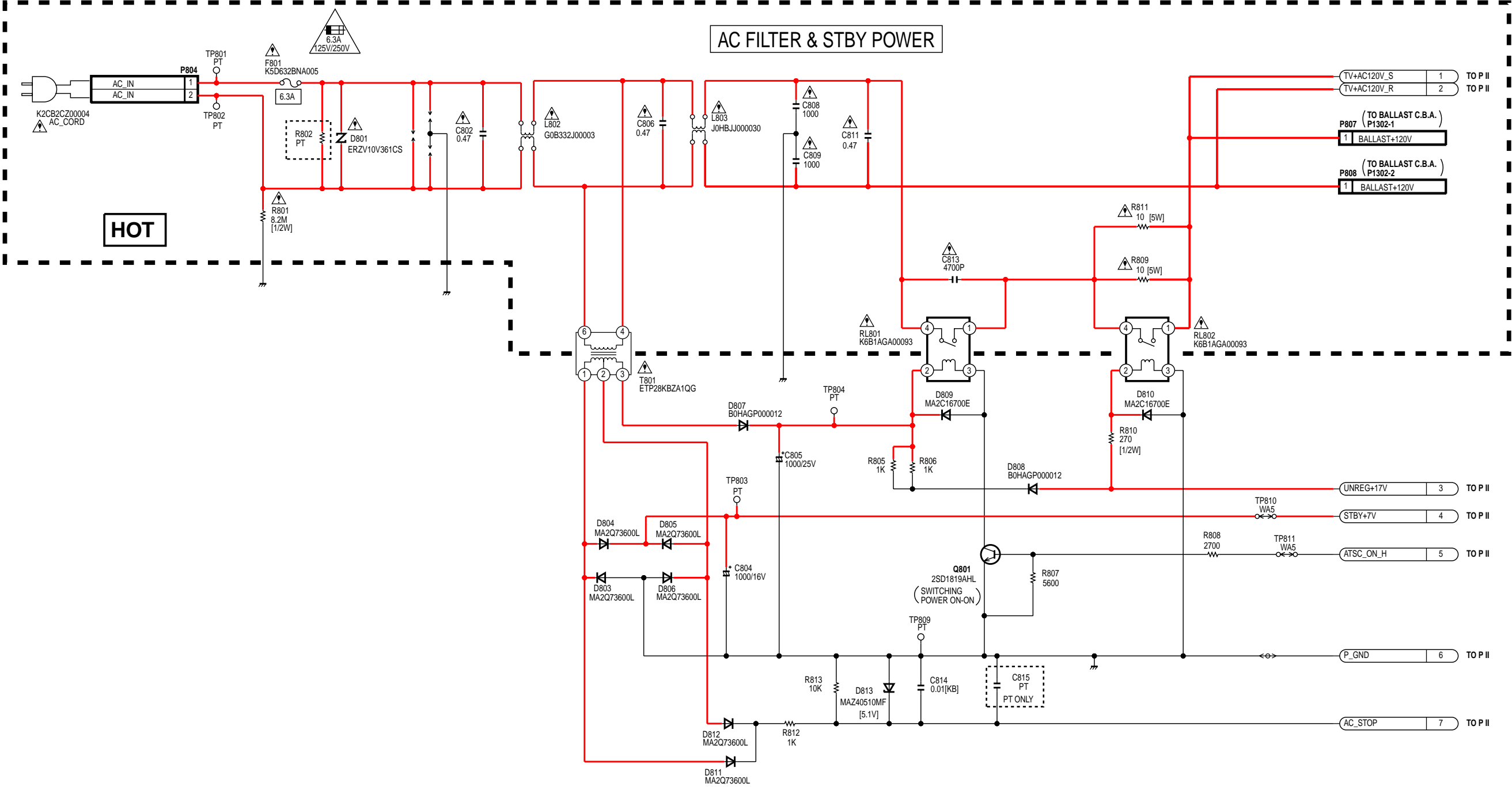
IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.

HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.




LINK TO VOLTAGE CHART

POWER II SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 5A 125/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE 5A 125/250V

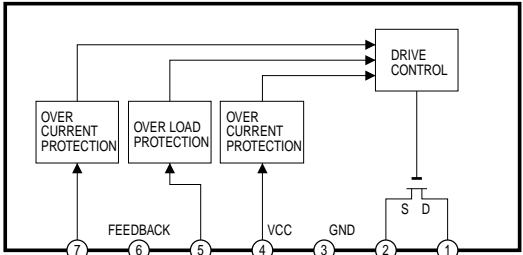
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

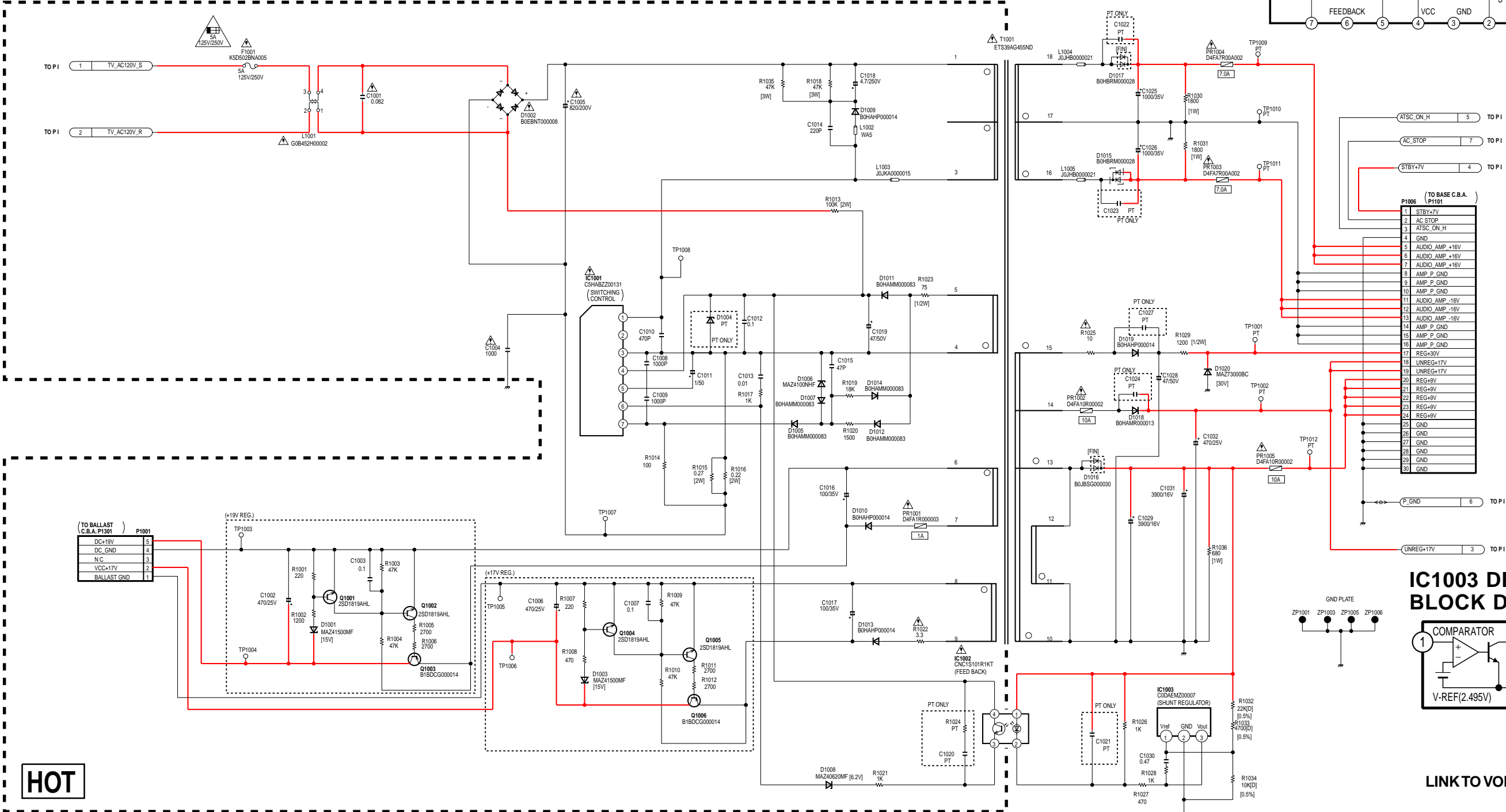
NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: PARTS MARKED "PT" ARE NOT USED.

IC1001 DETAIL BLOCK DIAGRAM



HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.




12.6. BALLAST SCHEMATIC DIAGRAM

BALLAST SCHEMATIC DIAGRAM

**F1302 REPLACEMENT NOTE:**  
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE NUMBER K5C117BC0003 (117 °C).  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME  
TYPE NUMÉRO K5C117BC0003 (117 °C)

**THERMAL FUSE UNIT REPLACEMENT NOTE:**  
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE NUMBER LSJA0464 (115 °C).  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME  
TYPE NUMÉRO LSJA0464 (115 °C)

IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 5A 125/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME  
TYPE 5A 125/250V

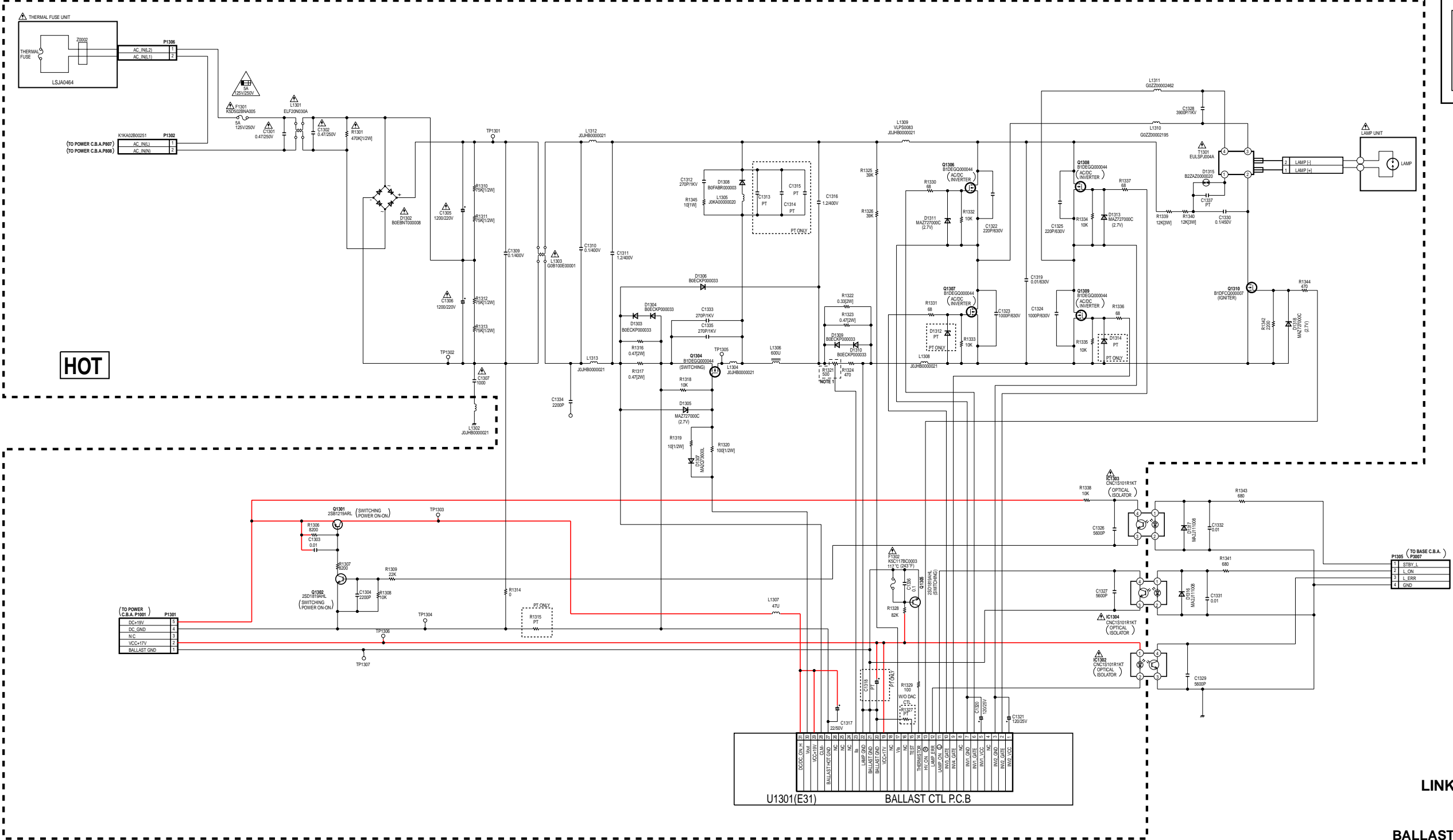


NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

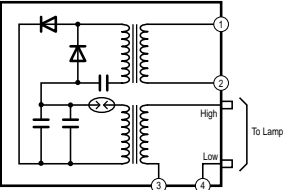
NOTE:  
PARTS MARKED "PT" ARE NOT USED.

**\*NOTE 1:**  
WHEN SERVICING BALLAST C.B.A., DO NOT TURN THE VARIABLE RESISTOR  
(R1321) ON THE BALLAST C.B.A.

HOT CIRCUIT. BE CAREFUL AND ISOLATION TRANSFORMER WHEN SERVICING.



T1301 DETAIL  
BLOCK DIAGRAM



LINKTO VOLTAGE CHART

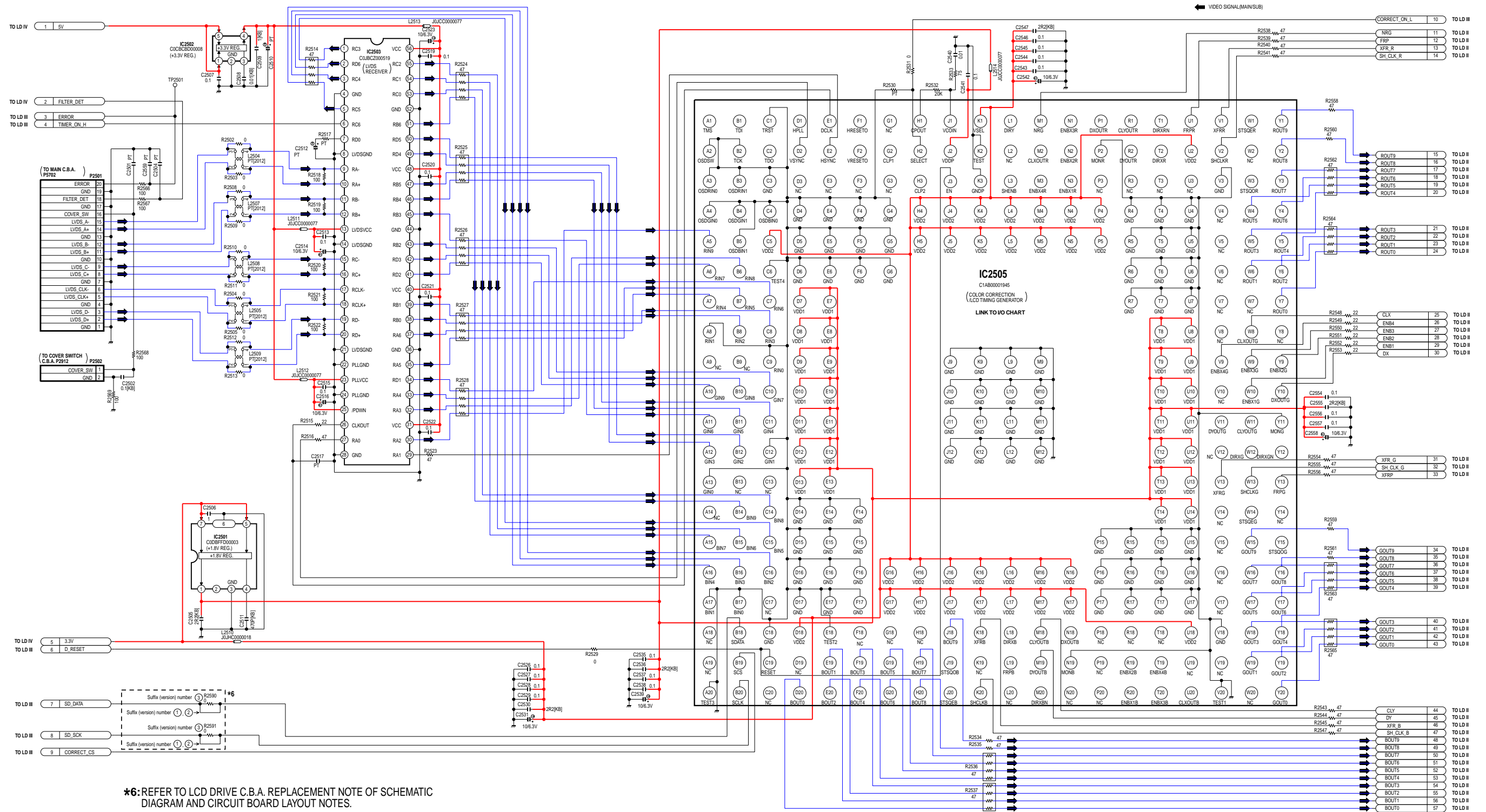
LSJB3163  
BALLAST SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



## 12.7. LCD DRIVE SCHEMATIC DIAGRAM

## LCD DRIVE I SCHEMATIC DIAGRAM

## LCD DRIVE(COLOR COR.)



LINK TO VOLTAGE CHART

LSJB3159










LCD DRIVE I SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K




I/O CHART OF IC2505

Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description	Pin No.	I/O	Signal Name	Description
A1	-	TMS	(Not used)	D6	-	GND	GND	H17	I	VDD2	VDD(+3.3V)	N16	I	VDD2	VDD(+3.3V)	U17	-	GND	GND
A2	-	OSDSW	(Not used)	D7	I	VDD1	VDD(+1.8V)	H18	-	NC	(Not used)	N17	I	VDD2	VDD(+3.3V)	U18	I	VDD2	VDD(+3.3V)
A3	-	OSDRIN0	(Not used)	D8	I	VDD1	VDD(+1.8V)	H19	O	BOUT7	B DIGITAL DATA 7	N18	-	DXOUTB	(Not used)	U19	-	NC	(Not used)
A4	-	OSDGIN0	(Not used)	D9	I	VDD1	VDD(+1.8V)	H20	O	BOUT8	B DIGITAL DATA 8	N19	-	MONB	(Not used)	U20	-	CLXOUTB	(Not used)
A5	I	RIN9	R DIGITAL DATA 9	D10	I	VDD1	VDD(+1.8V)	J1	I	VCOIN	PLL OSC CONTROL	N20	-	NC	(Not used)	V1	O	XFRR	CLOCK FOR SAMPLING HOLD(R)
A6	I	RIN7	R DIGITAL DATA 7	D11	I	VDD1	VDD(+1.8V)	J2	I	VDDP	VDD(+1.8V)	P1	-	DXOUTR	(Not used)	V2	O	SHCLKR	TIMING SIGNAL FOR SAMPLING HOLD(R)
A7	I	RIN4	R DIGITAL DATA 4	D12	I	VDD1	VDD(+1.8V)	J3	I	EN	PLL ENABLE (L)	P2	-	MONR	(Not used)	V3	-	GND	GND
A8	-	RIN1	R DIGITAL DATA 1 (Not used)	D13	I	VDD1	VDD(+1.8V)	J4	I	VDD2	VDD(+3.3V)	P3	-	NC	(Not used)	V4	-	NC	(Not used)
A9	-	NC	(Not used)	D14	-	GND	GND	J5	I	VDD2	VDD(+3.3V)	P4	I	VDD2	VDD(+3.3V)	V5	-	NC	(Not used)
A10	I	GIN9	G DIGITAL DATA 9	D15	-	GND	GND	J9	-	GND	GND	P5	I	VDD2	VDD(+3.3V)	V6	-	NC	(Not used)
A11	I	GIN6	G DIGITAL DATA 6	D16	-	GND	GND	J10	-	GND	GND	P15	-	GND	GND	V7	-	NC	(Not used)
A12	I	GIN3	G DIGITAL DATA 3	D17	-	GND	GND	J11	-	GND	GND	P16	-	GND	GND	V8	-	NC	(Not used)
A13	-	GIN0	G DIGITAL DATA 0 (Not used)	D18	I	VDD2	VDD(+3.3V)	J12	-	GND	GND	P17	-	GND	GND	V9	O	ENB4XG	ENABLE PULSE 4 FOR LCD(G)
A14	-	NC	(Not used)	D19	-	NC	(Not used)	J16	I	VDD2	VDD(+3.3V)	P18	-	NC	(Not used)	V10	-	NC	(Not used)
A15	I	BIN7	B DIGITAL DATA 7	D20	O	BOUT0	B DIGITAL DATA 0	J17	I	VDD2	VDD(+3.3V)	P19	-	NC	(Not used)	V11	-	DYOUTG	(Not used)
A16	I	BIN4	B DIGITAL DATA 4	E1	I	DCLK	SYSTEM CLOCK	P20	O	BOUT9	B DIGITAL DATA 9	P20	-	NC	(Not used)	V12	-	NC	(Not used)
A17	-	BIN1	B DIGITAL DATA 1 (Not used)	E2	I	HSYNC	H-SYNC	J19	-	STSQOB	(Not used)	R1	-	CLYOUTR	(Not used)	V13	O	XFRG	TIMING SIGNAL FOR SAMPLING HOLD(R)
A18	-	NC	(Not used)	E3	-	NC	(Not used)	J20	-	STSQEB	(Not used)	R2	-	DYOUTR	(Not used)	V14	-	NC	(Not used)
A19	-	NC	(Not used)	E4	-	GND	GND	K1	-	VSEL	(Not used)	R3	-	NC	(Not used)	V15	-	NC	(Not used)
A20	-	TEST3	(Not used)	E5	-	GND	GND	K2	-	TEST	(Not used)	R4	-	GND	GND	V16	-	NC	(Not used)
B1	-	TDI	(Not used)	E6	-	GND	GND	K3	-	GNDP	GND	R5	-	GND	GND	V17	-	NC	(Not used)
B2	-	TCK	(Not used)	E7	I	VDD1	VDD(+1.8V)	K4	I	VDD2	VDD(+3.3V)	R6	-	GND	GND	V18	-	GND	GND
B3	-	OSDRIN1	(Not used)	E8	I	VDD1	VDD(+1.8V)	K5	I	VDD2	VDD(+3.3V)	R7	-	GND	GND	V19	-	NC	(Not used)
B4	-	OSDGIN1	(Not used)	E9	I	VDD1	VDD(+1.8V)	K9	-	GND	GND	R15	-	GND	GND	V20	-	TEST1	(Not used)
B5	-	OSDBIN1	(Not used)	E10	I	VDD1	VDD(+1.8V)	K10	-	GND	GND	R16	-	GND	GND	W1	-	STSQER	(Not used)
B6	I	RIN8	R DIGITAL DATA 8	E11	I	VDD1	VDD(+1.8V)	K11	-	GND	GND	R17	-	GND	GND	W2	-	NC	(Not used)
B7	I	RIN5	R DIGITAL DATA 5	E12	I	VDD1	VDD(+1.8V)	K12	-	GND	GND	R18	-	NC	(Not used)	W3	-	STSQOR	(Not used)
B8	I	RIN2	R DIGITAL DATA 2	E13	I	VDD1	VDD(+1.8V)	K16	I	VDD2	VDD(+3.3V)	R19	-	ENBX2B	(Not used)	W4	O	ROUT5	R DIGITAL DATA 5
B9	-	NC	(Not used)	E14	-	GND	GND	K17	I	VDD2	VDD(+3.3V)	R20	-	ENBX1B	(Not used)	W5	O	ROUT3	R DIGITAL DATA 3
B10	I	GIN8	G DIGITAL DATA 8	E15	-	GND	GND	K18	O	XFRB	TIMING SIGNAL FOR SAMPLING HOLD(B)	T1	-	DIRXRN	(Not used)	W6	O	ROUT1	R DIGITAL DATA 1
B11	I	GIN5	G DIGITAL DATA 5	E16	-	GND	GND	K19	-	NC	(Not used)	T2	-	DIRXR	(Not used)	W7	-	NC	(Not used)
B12	I	GIN2	G DIGITAL DATA 2	E17	-	GND	GND	K20	O	SHCLKB	CLOCK FOR SAMPLING HOLD(B)	T3	-	NC	(Not used)	W8	O	CLXOUTG	TRANSMISSION CLOCK FOR LCD(G) <X DIRECTION>
B13	-	NC	(Not used)	E18	-	TEST2	(Not used)	L1	-	DIRY	(Not used)	T4	-	GND	GND	W9	O	ENBX3G	ENABLE PULSE 3 FOR LCD(G)
B14	I	BIN9	B DIGITAL DATA 9	E19	O	BOUT1	B DIGITAL DATA 1	L2	-	NC	(Not used)	T5	-	GND	GND	W10	O	ENBX1G	ENABLE PULSE 1 FOR LCD(G)
B15	I	BIN6	B DIGITAL DATA 6	E20	O	BOUT2	B DIGITAL DATA 2	L3	-	SHENB	(Not used)	T6	-	GND	GND	W11	-	CLYOUTG	(Not used)
B16	I	BIN3	B DIGITAL DATA 3	F1	-	HRESETO	(Not used)	L4	I	VDD2	VDD(+3.3V)	T7	-	GND	GND	W12	-	DIRXG	(Not used)
B17	-	BIN0	B DIGITAL DATA 0 (Not used)	F2	-	VRESETO	(Not used)	L5	I	VDD2	VDD(+3.3V)	T8	I	VDD1	VDD(+1.8V)	W13	O	SHCLKG	CLOCK FOR SAMPLING HOLD(G)
B18	I	SDATA	SERIAL DATA	F3	-	NC	(Not used)	L9	-	GND	GND	T9	I	VDD1	VDD(+1.8V)	W14	-	STSQEG	(Not used)
B19	I	SCS	CS(L)	F4	-	GND	GND	L10	-	GND	GND	T10	I	VDD1	VDD(+1.8V)	W15	O	GOUT9	G DIGITAL DATA 9
B20	I	SCLK	SERIAL CLOCK	F5	-	GND	GND	L11	-	GND	GND	T11	I	VDD1	VDD(+1.8V)	W16	O	GOUT7	G DIGITAL DATA 7
C1	-	TRST	(Not used)	F6	-	GND	GND	L12	-	GND	GND	T12	I	VDD1	VDD(+1.8V)	W17	O	GOUT5	G DIGITAL DATA 5
C2	-	TDO	(Not used)	F14	-	GND	GND	L16	I	VDD2	VDD(+3.3V)	T13	I	VDD1	VDD(+1.8V)	W18	O	GOUT3	G DIGITAL DATA 3
C3	-	GND	GND	F15	-	GND	GND	L17	I	VDD2	VDD(+3.3V)	T14	I	VDD1	VDD(+1.8V)	W19	O	GOUT1	G DIGITAL DATA 1
C4	-	OSDBIN0	(Not used)	F16	-	GND	GND	L18	-	DIRXB	(Not used)	T15	-	GND	GND	W20	-	NC	(Not used)
C5	I	VDD2	VDD(+3.3V)	F17	-	GND	GND	L19	-	FRPB	(Not used)	T16	-	GND	GND	Y1	O	ROUT9	R DIGITAL DATA 9
C6	-	TEST4	(Not used)	F18	-	NC	(Not used)	L20	-	NC	(Not used)	T17	-	GND	GND	Y2	O	ROUT8	R DIGITAL DATA 8
C7	I	RIN6	R DIGITAL DATA 6	F19	O	BOUT3	B DIGITAL DATA 3	M1	O	NRG	DRIVE PULSE FOR LCD PANEL	T18	-	NC	(Not used)	Y3	O	ROUT7	R DIGITAL DATA 7
C8	I	RIN3	R DIGITAL DATA 3	F20	O	BOUT4	B DIGITAL DATA 4	M2	-	CLXOUTR	(Not used)	T19	-	ENBX4B	(Not used)	Y4	O	ROUT6	R DIGITAL DATA 6
C9	-	RIN0	R DIGITAL DATA 0 (Not used)	G1	-	NC	(Not used)	M3	-	ENBX4R	(Not used)	T20	-	ENBX3B	(Not used)	Y5	O	ROUT4	R DIGITAL DATA 4
C10	I	GIN7	G DIGITAL DATA 7	G2	-	CLP1	(Not used)	M4	I	VDD2	VDD(+3.3V)	U1	O	FRPR	POLARITY REVERSE PULSE FOR (R, B) SIGNAL	Y6	O	ROUT2	R DIGITAL DATA 2
C11	I	GIN4	G DIGITAL DATA 4	G3	-	NC	(Not used)	M5	I	VDD2	VDD(+3.3V)	U2	I	VDD2	VDD(+3.3V)	Y7	O	ROUT0	R DIGITAL DATA 0
C12	-	GIN1	G DIGITAL DATA 1 (Not used)	G4	-	GND	GND	M9	-	GND	GND	U3	-	NC	(Not used)	Y8	-	NC	(Not used)
C13	-	NC	(Not used)	G5	-	GND	GND	M10	-	GND	GND	U4	-	GND	GND	Y9	O	ENBX2G	ENABLE PULSE 2 FOR LCD(G)
C14	I	BIN8	B DIGITAL DATA 8	G6	-	GND	GND	M11	-	GND	GND	U5	-	GND	GND	Y10	O	DXOUTG	SHIFT DATA FOR LCD(G) <X DIRECTION>
C15	I	BIN5	B DIGITAL DATA 5	G16	I	VDD2	VDD(+3.3V)	M12	-	GND	GND	U6	-	GND	GND	Y11	-	MONG	(Not used)
C16	I	BIN2	B DIGITAL DATA 2	G17	I	VDD2	VDD(+3.3V)	M16	I	VDD2	VDD(+3.3V)	U7	-	GND	GND	Y12	-	DIRXGN	(Not used)
C17	-	NC	(Not used)	G18	-	NC	(Not used)	M17	I	VDD2	VDD(+3.3V)	U8	I	VDD1	VDD(+1.8V)	Y13	O	FRPG	POLARITY REVERSE PULSE FOR (G) SIGNAL
C18	-	GND	GND	G19	O	BOUT5	B DIGITAL DATA 5	M18	O	CLYOUTB	TRANSMISSION CLOCK FOR LCD(B) <Y DIRECTION>	U9	I	VDD1	VDD(+1.8V)	Y14	-	NC	(Not used)
C19	I	RESET	RESET(L)	G20	O	BOUT6	B DIGITAL DATA 6	M19	O	DYOUTB	SHIFT DATA FOR LCD(B) <Y DIRECTION>	U10	I	VDD1	VDD(+1.8V)	Y15	-	STSQOG	(Not used)
C20	-	NC	(Not used)	H1	O	CPOUT	PLL PHASE COMP	M20	-	DIRXBN	(Not used)	U11	O	VDD1	VDD(+1.8V)	Y16	O	GOUT8	G DIGITAL DATA 8
D1	-	HPLL	(Not used)	H2	I	SELECT	NON-UNIFORMITY COLOR CORRECT ON(L)	N1	-	ENBX3R	(Not used)	U12	I	VDD1	VDD(+1.8V)	Y17	O	GOUT6	G DIGITAL DATA 6
D2	I	VSYNC	V-SYNC	H3	-	CLP2	(Not used)	N2	-	ENBX2R	(Not used)	U13	I	VDD1	VDD(+1.8V)	Y18	O	GOUT4	G DIGITAL DATA 4
D3	-	NC	(Not used)	H4	I	VDD2	VDD(+3.3V)	N3	-	ENBX1R	(Not used)	U14	I	VDD1	VDD(+1.8V)	Y19	O	GOUT2	G DIGITAL DATA 2
D4	-	GND	GND	H5	I	VDD2	VDD(+3.3V)	N4	I	VDD2	VDD(+3.3V)	U15	-	GND	GND	Y20	O	GOUT0	G DIGITAL DATA 0
D5	-	GND	GND	H16	I	VDD2	VDD(+3.3V)	N5	I	VDD2	VDD(+3.3V)	U16	-	GND	GND				

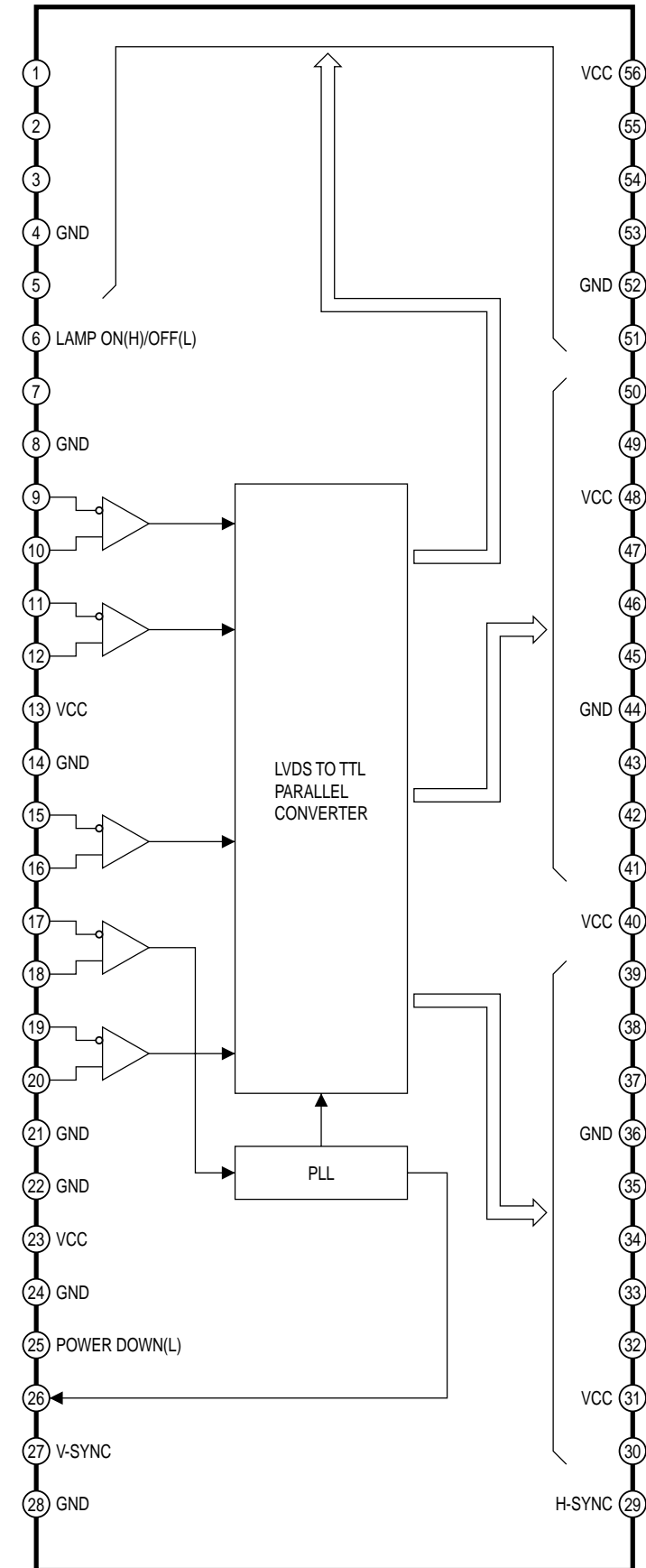


## CHECKING POINT OF IC2505

Pin	Name	Voltage	Check Point	WF No.	Remarks
B8	RIN2	0.4	 R2527 (LOWER)	WF108	FOIL SIDE
C8	RIN3	1.5			
A7	RIN4	0.2			
B7	RIN5	0.3			
C7	RIN6	0.3	 R2528 (LOWER)	WF108	FOIL SIDE
A6	RIN7	0.7			
B6	RIN8	0.6			
A5	RIN9	0.9			
B12	GIN2	0.4	 R2525 (LOWER)	WF109	FOIL SIDE
A12	GIN3	1.5			
C11	GIN4	0.3			
B11	GIN5	0.3			
A11	GIN6	0.3	 R2526 (LOWER)	WF109	FOIL SIDE
C10	GIN7	0.8			
B10	GIN8	0.5			
A10	GIN9	0.9			
C16	BIN2	0.5	 R2514 (RIGHT)	WF110	FOIL SIDE
B16	BIN3	1.5			
A16	BIN4	0.3			
C15	BIN5	0.4			
B15	BIN6	0.4	 R2524 (RIGHT)	WF110	FOIL SIDE
A15	BIN7	0.8			
C14	BIN8	0.7			
B14	BIN9	0.8			
Y7	ROUT0	1.1	 R2564 (LEFT)	WF114	FOIL SIDE
W6	ROUT1	0.6			
Y6	ROUT2	0.7			
W5	ROUT3	1.4			
Y5	ROUT4	1.4	 R2562 (LEFT)	WF114	FOIL SIDE
W4	ROUT5	1.0			
Y4	ROUT6	0.6			
Y3	ROUT7	0.6			
Y2	ROUT8	1.1	R2560 (UPPER)	WF114	FOIL SIDE
Y1	ROUT9	1.0	R2558 (UPPER)		FOIL SIDE
Y20	GOUT0	0.5	 R2565 (LOWER)	WF115	FOIL SIDE
W19	GOUT1	0.5			
Y19	GOUT2	1.3			
W18	GOUT3	0.8			

Pin	Name	Voltage	Check Point	WF No.	Remarks
Y18	GOUT4	1.0	 R2563 (LOWER)	WF115	FOIL SIDE
W17	GOUT5	1.1			
Y17	GOUT6	0.9			
W16	GOUT7	0.9			
Y16	GOUT8	0.6	R2561 (LOWER)	WF115	FOIL SIDE
W15	GOUT9	1.0			
D20	BOUT0	1.3	 R2537 (LOWER)	WF116	FOIL SIDE
E19	BOUT1	0.5			
E20	BOUT2	1.1			
F19	BOUT3	1.4			
F20	BOUT4	0.6	 R2536 (LOWER)	WF116	FOIL SIDE
G19	BOUT5	0.5			
G20	BOUT6	1.1			
H19	BOUT7	1.0			
H20	BOUT8	0.6	R2535 (LOWER)	WF124	FOIL SIDE
J18	BOUT9	1.2	R2534 (LOWER)		FOIL SIDE
B18	SDATA	3.4	R2357 (UPPER)	WF124	FOIL SIDE
B19	SCS	3.2	R2407 (LOWER)	—	COMPONENT SIDE
B20	SCLK	3.4	R2354 (UPPER)	WF125	FOIL SIDE
C19	RESET	3.4	R2529 (RIGHT)	—	FOIL SIDE
D2	VSNC	3.4	R2516 (LOWER)	WF112	FOIL SIDE
E2	HSYNC	3.1	R2523 (LOWER)	WF111	FOIL SIDE
E1	DCLK	1.5	R2515 (LOWER)	WF113	FOIL SIDE
D7	D8		Pin 1 of IC2501	—	COMPONENT SIDE
D9	VDD1	1.9			
D9	etc.				
C5	D18		L2510 (LEFT)	—	COMPONENT SIDE
D18	VDD2	3.5			
G16	etc.				

## IC2503 DETAIL BLOCK DIAGRAM

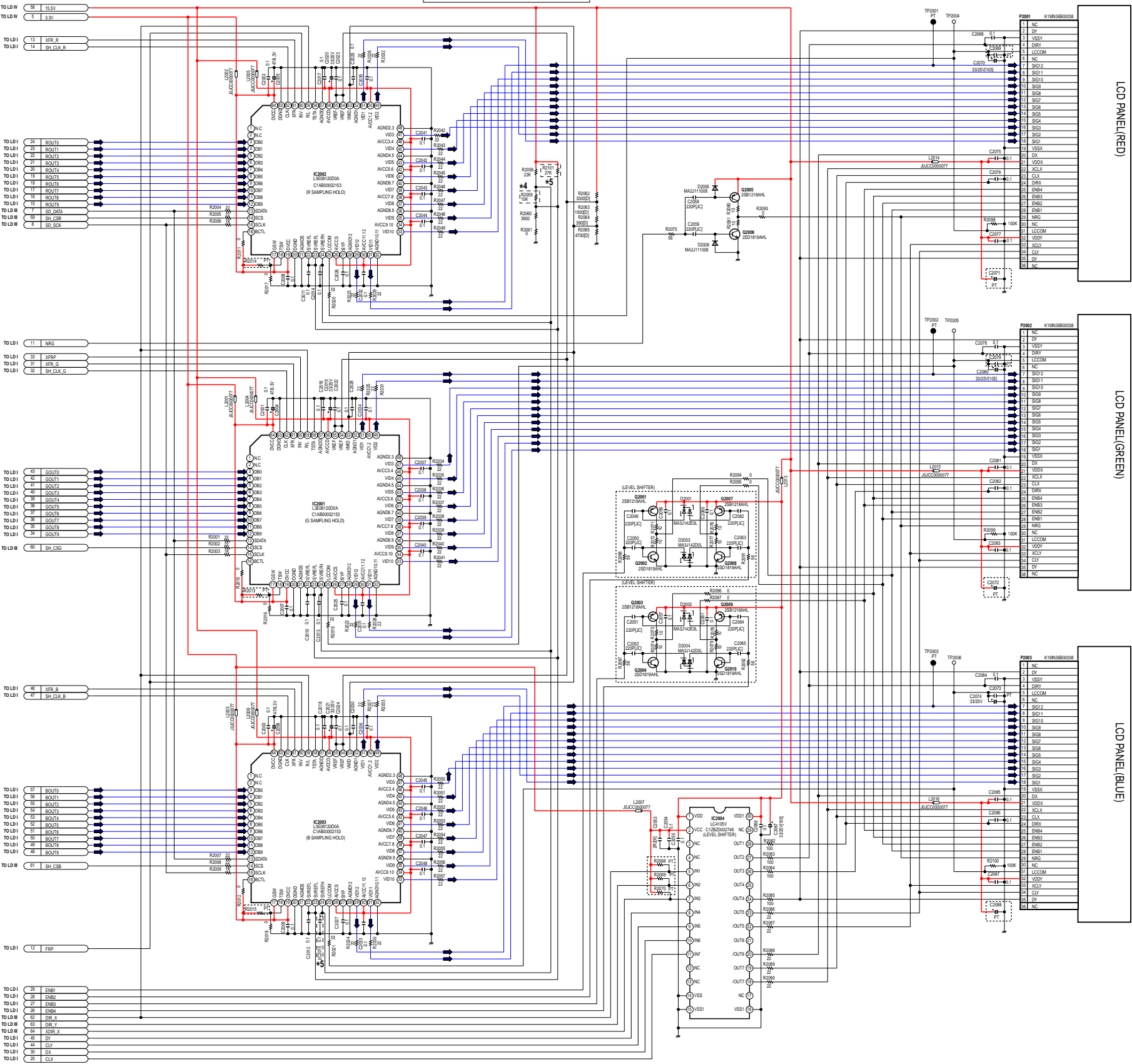


CHECKING POINT OF IC2505  
 IC2503 DETAIL BLOCK DIAGRAM  
 PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

LCD DRIVE II SCHEMATIC DIAGRAM

\*4, \*5: REFER TO LCD DRIVE C.B.A. REPLACEMENT NOTE OF SCHEMATIC  
DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.

LCD DRIVE(S/H)

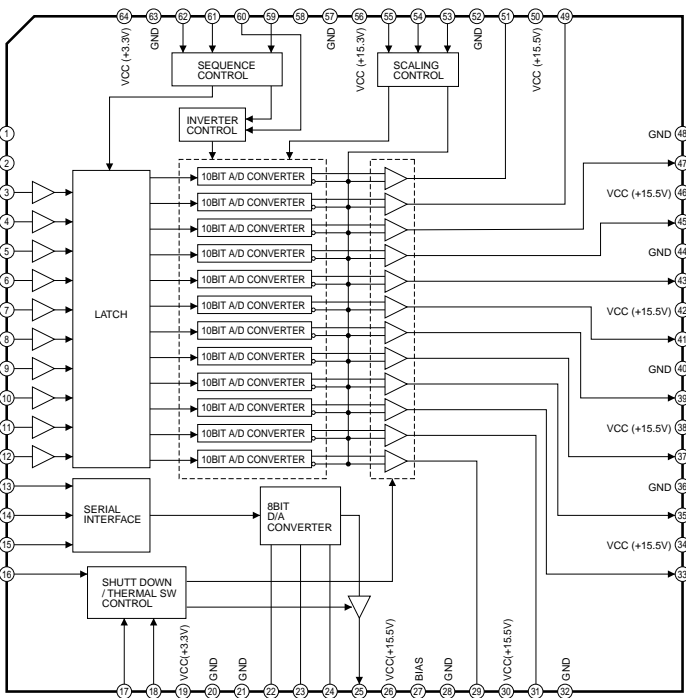


NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

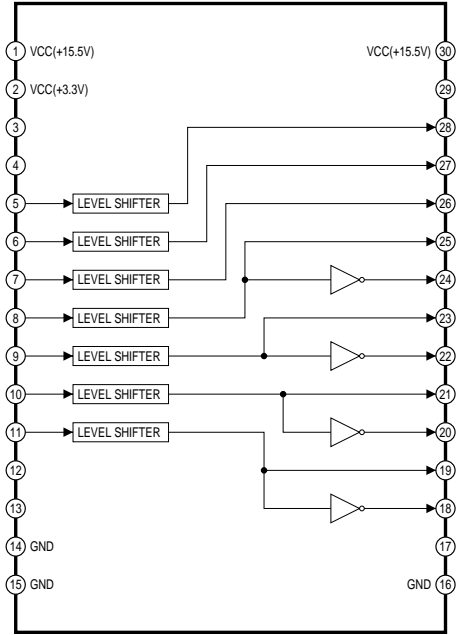
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.

IC2001 / IC2002 / IC2003 DETAIL BLOCK DIAGRAM

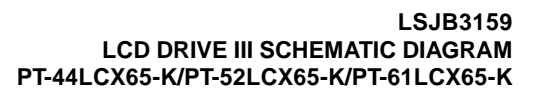


IC2004 DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

LSJB3159  
LCD DRIVE II SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



I/O CHART OF IC2303

Pin No.	I/O	Signal Name	Description
1	-	AN3 / PA3	(Not used)
2	I	THERMO3_IN	TEMPERATURE DATA3 (FROM THERMISTOR 1 C. B. A.)
3	-	AN5 / PA5	(Not used)
4	I	5V_IN	+5V LINE DETECT※1
5	-	NC	(Not used)
6	I	VREF+	V-REF FOR IC2303
7	I	VDD	VDD (+3.3V)
8	O	OSC2	8MHz OSCILLATION
9	I	OSC1	8MHz OSCILLATION
10	-	VSS	GND
11	-	X1	(Not used)
12	-	X0	(Not used)
13	-	MMOD	(Not used)
14	I	NRST	RESET (L)
15	O	TXD	RS232C TRANSMITTED DATA
16	I	RXD	RS232C RECEIVED DATA
17	-	SCL	(Not used)
18	O	SD_DATA	SERIAL DATA 0
19	I	DS_DATA	SERIAL DATA 1
20	O	SD_LOCK	SERIAL CLOCK
21	-	BUZZER	(Not used)
22	-	RMOUTA	(Not used)
23	O	FAN1_SD_CTL	FAN1 SPEED CONTROL
24	-	TCO4A / P12	(Not used)
25	-	FAN2_SD_CTL	(Not used)
26	O	ERROR	LCD DRIVE ERROR INFORMATION
27	-	IRQ0 / P20	(Not used)
28	-	ACZ / IRQ1 / P21	(Not used)
29	I	FAN1_LOCK_H	FAN1 LOCK (H)
30	I	FAN2_LOCK_H	FAN2 LOCK (H)
31	I	FAN3_LOCK_H	FAN3 LOCK (H)
32	O	DIR_Y	LCD REVERSE (UP / DOWN) CONTROL

Pin No.	I/O	Signal Name	Description
33	O	LCD_ON_H	+15.5V (LCD DRIVE) ON (H)
34	O	D_RESET	RESET (L)
35	-	WRITER_ATA	(Not used)
36	-	WRITER_CLK	(Not used)
37	O	CORRECT_ON_L	NON-UNIFORMITY COLOR CORRECT ON (L)
38	O	EEP_CS	EEPROM CS (L)
39	O	DIR_X	LCD REVERSE (L/R) CONTROL
40	O	XDIR_X	INVERTED LCD REVERSE (L/R) CONTROL
41	O	CORRECT_CS	COLOR CORRECTION CS (L)
42	O	FAN1_ON_H	FAN1 ON (H)
43	O	FAN2_ON_H	FAN2 ON (H)
44	O	FAN3_ON_H	FAN3 ON (H)
45	I	TIMER_ON_H	LAMP ON (H) / OFF (L)
46	-	D4H / D5L	(Not used)
47	-	CHAMP_L	(Not used)
48	-	P73 / SB01B / TXD18	(Not used)
49	-	THERMO_IN	(Not used)
50	-	PA1 / AN1 / DA1	(Not used)
51	-	15.5ADJ	(Not used)
52	O	VREF-	FAN3 SPEED CONTROL
53	-	17V_IN	(Not used)
54	-	14V_IN	(Not used)
55	-	SHR_CS	(Not used)
56	O	SHG_CS	SAMPLING HOLD BLUE CS (L)
57	O	SHB_CS	SAMPLING HOLD GREEN CS (L)
58	O	P85 / LED5	SAMPLING HOLD RED CS (L)
59	I	P86 / LED6	+9V LINE DETECT※1
60	I	JIGU_L	+17V LINE DETECT※1
61	-	FAN3_SD_CTL	(Not used)
62	-	P76 / TC101	(Not used)
63	O	P75 / SBT18	FAN2 SPEED CONTROL
64	I	P74 / SB11B / RXD1B	TEMPERATURE DATA 1 (FROM THERMISTOR 2 C. B. A.)

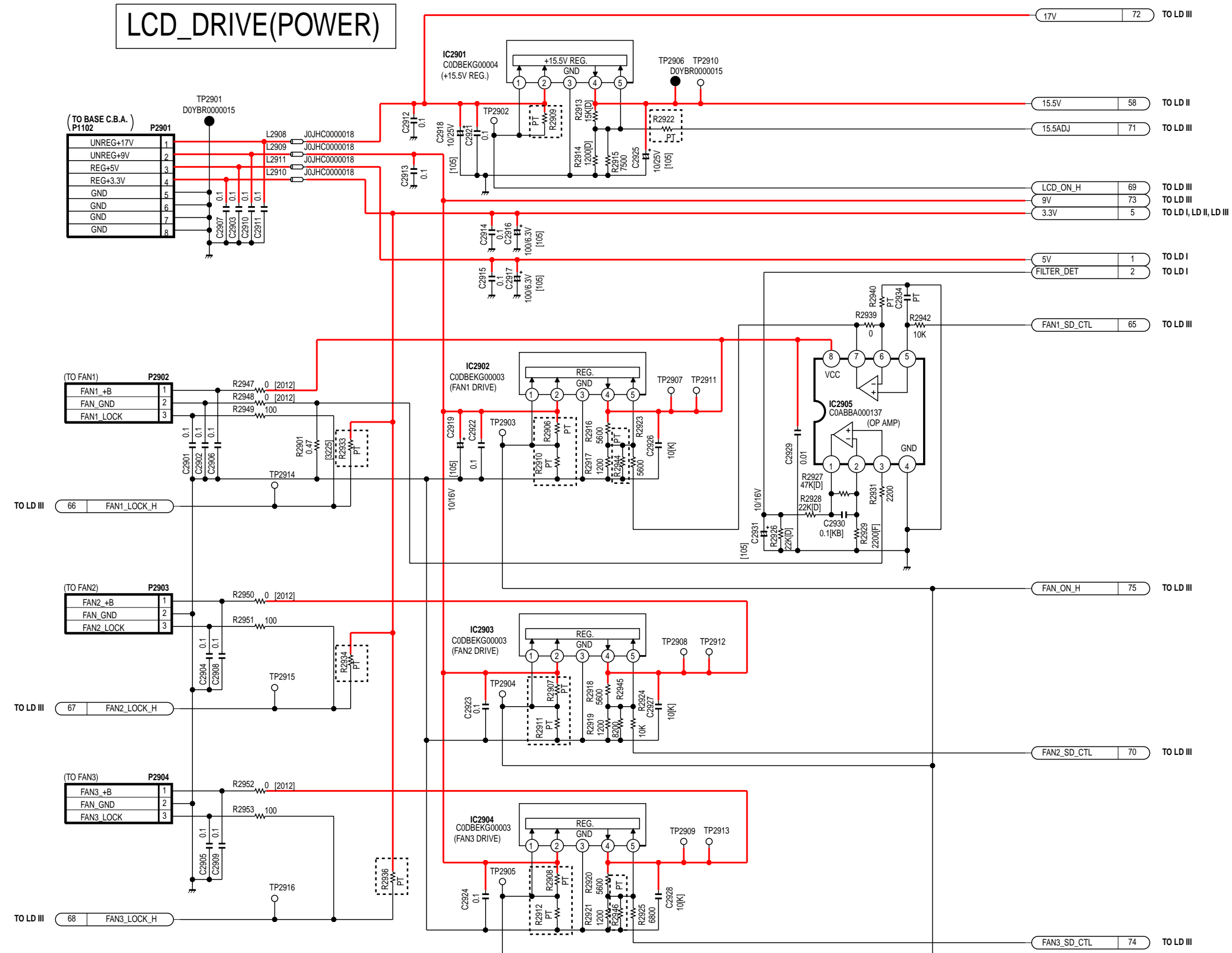
※1

Pin No.	Description
4	VOLTAGE DETECTION FOR ERROR LED INDICATION WHEN THE VOLTAGE BECOMES LESS THAN 2.5V.
59	VOLTAGE DETECTION FOR ERROR LED INDICATION WHEN THE VOLTAGE BECOMES LESS THAN 6.5V.
60	VOLTAGE DETECTION FOR ERROR LED INDICATION WHEN THE VOLTAGE BECOMES LESS THAN 12V.

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.



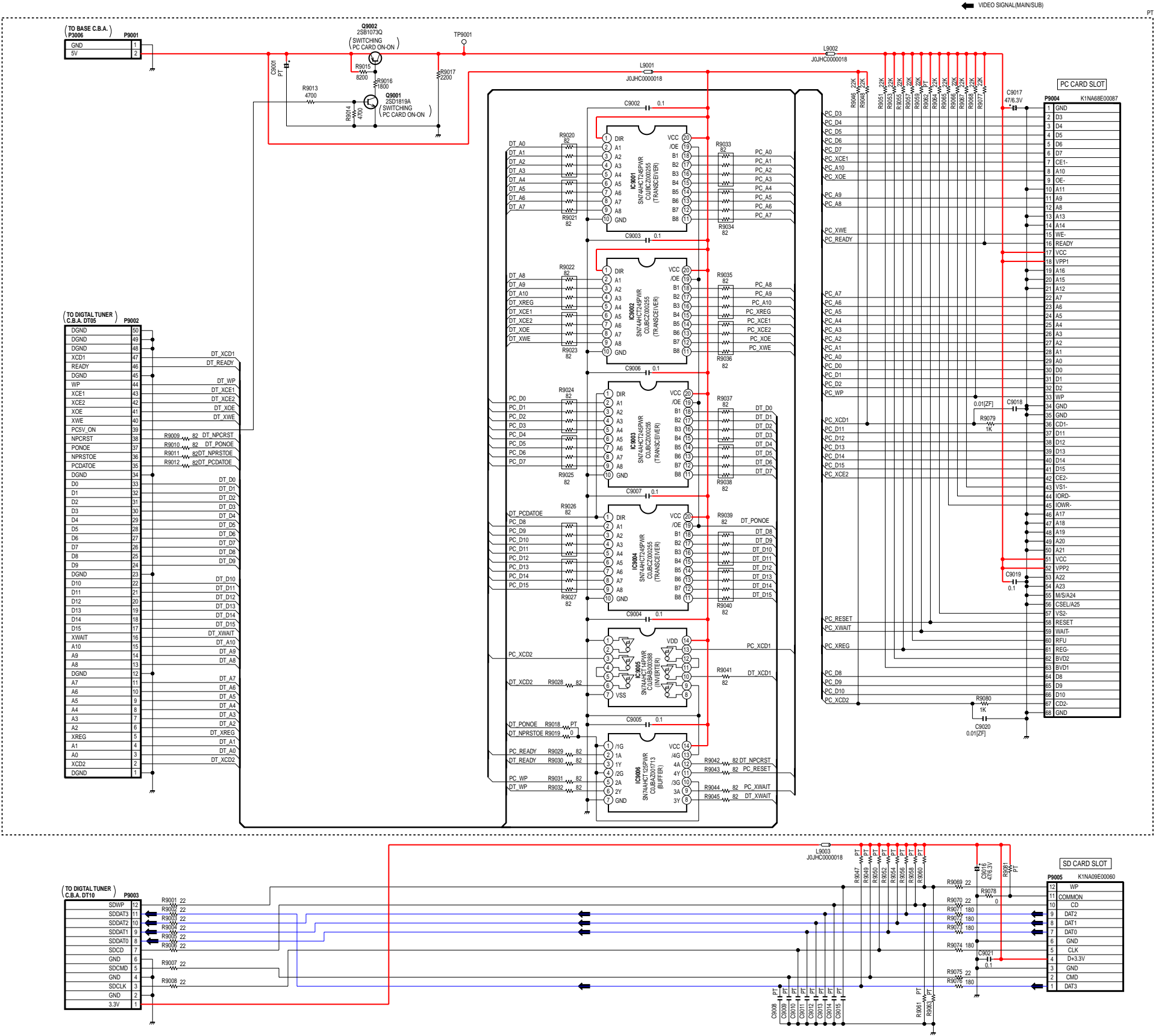
12.8. CARD SCHEMATIC DIAGRAM

CARD SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.



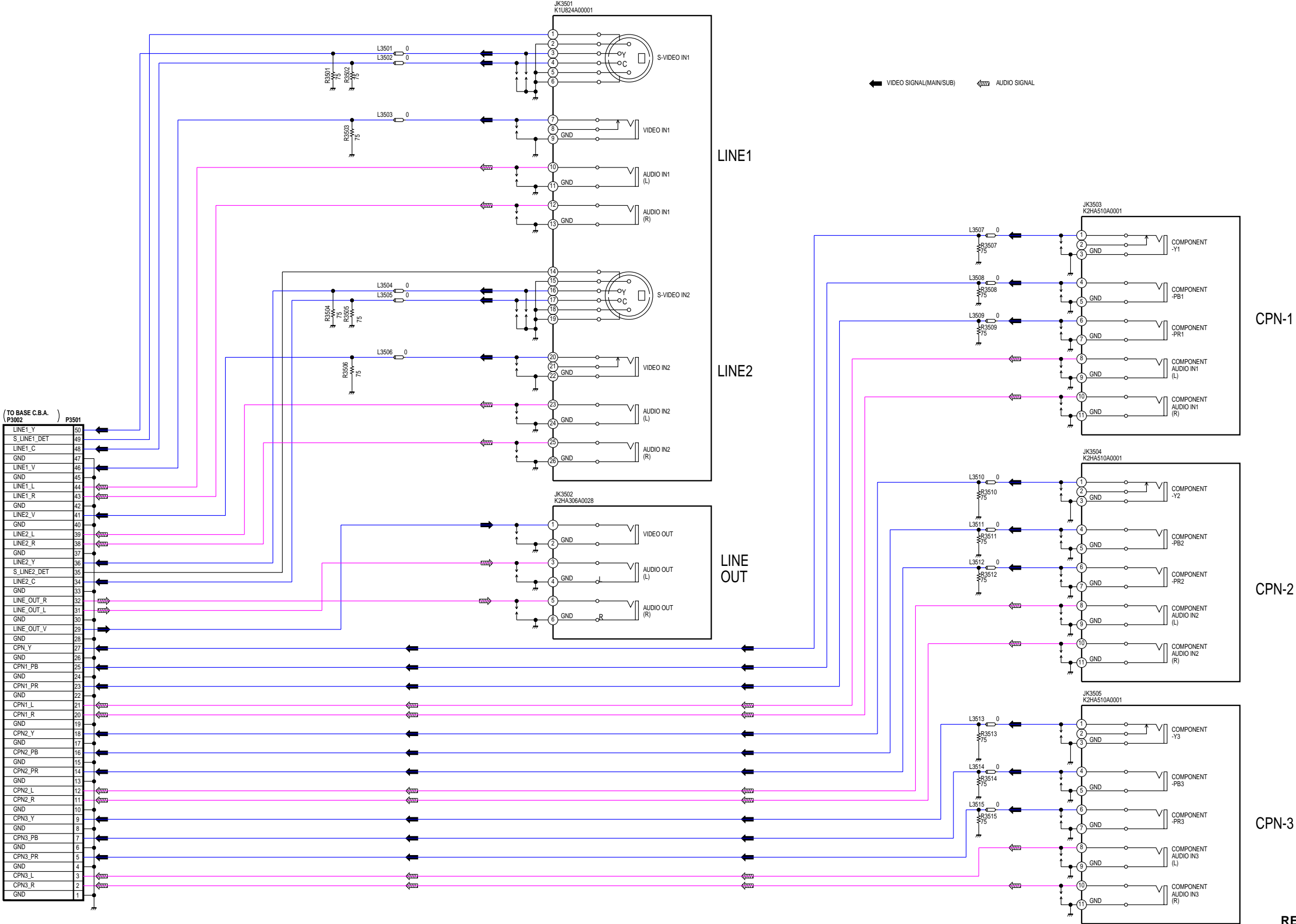
12.9. REAR JACK SCHEMATIC DIAGRAM

REAR JACK SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: PARTS MARKED "PT" ARE NOT USED.



LSJB3154  
REAR JACK SCHEMATIC DIAGRAM  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



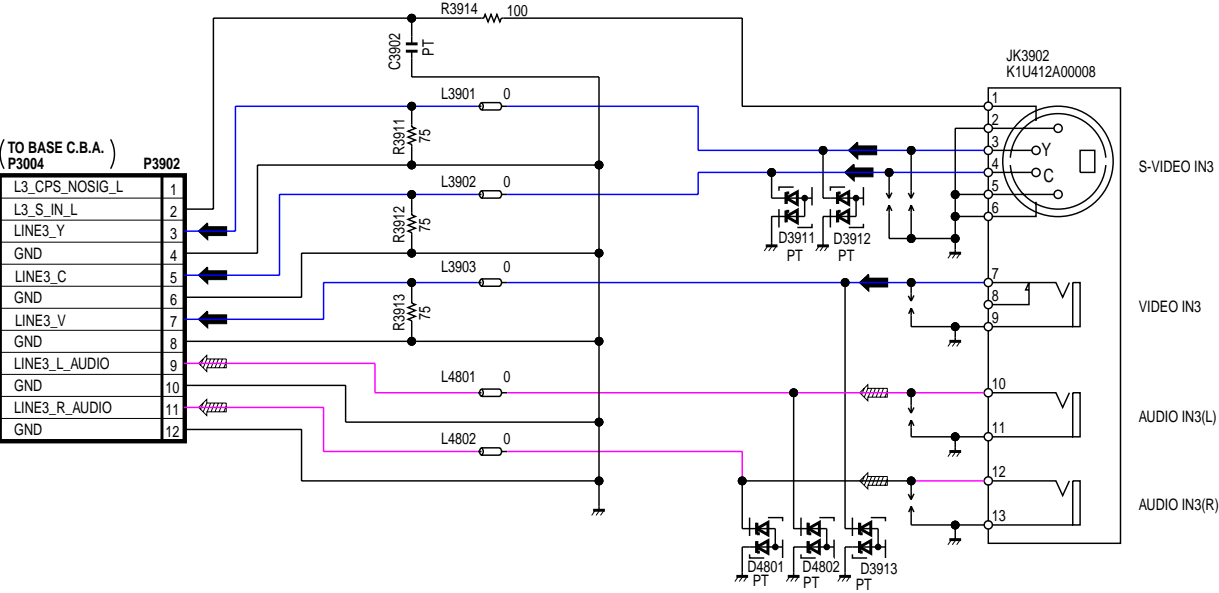
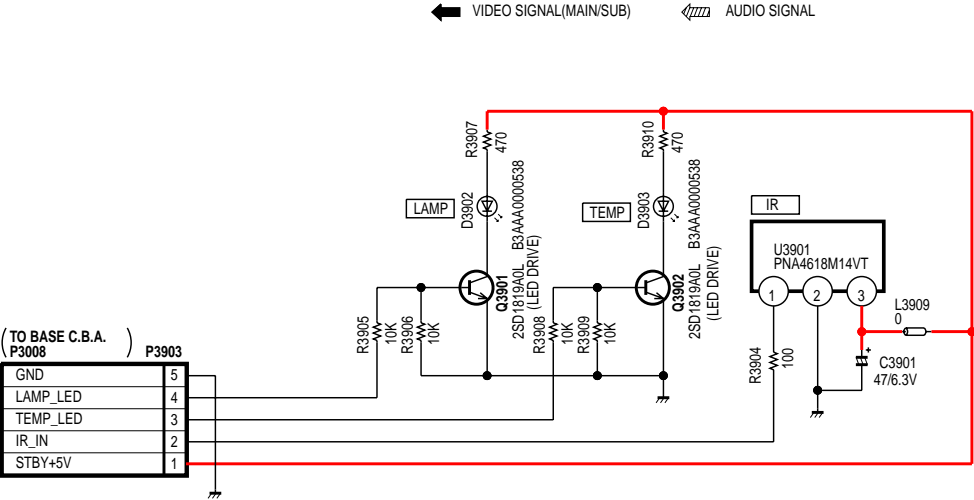
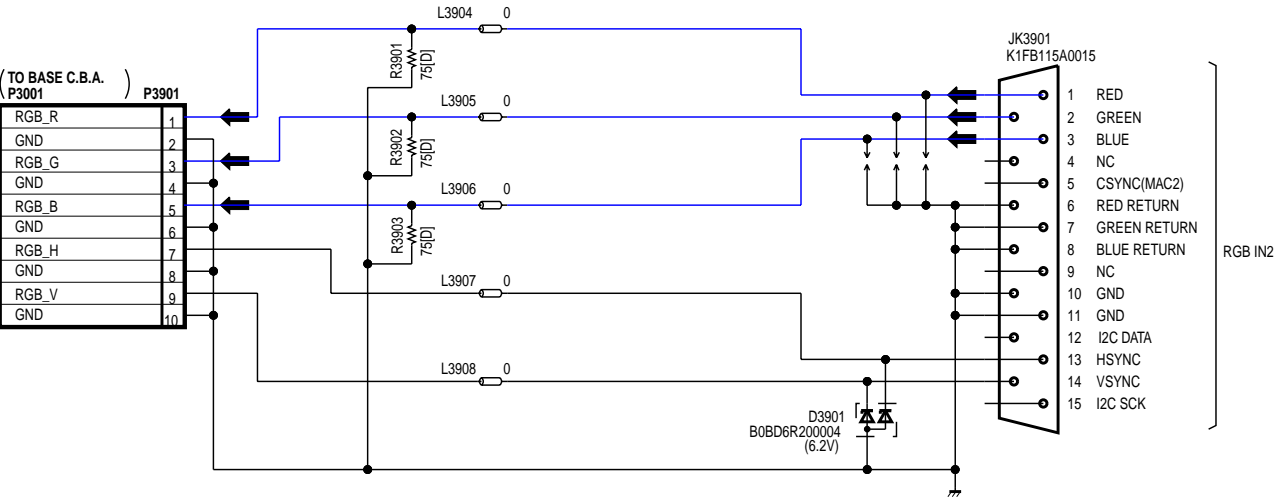
12.10. FRONT JACK SCHEMATIC DIAGRAM

FRONT JACK SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
PARTS MARKED "PT" ARE NOT USED.



[LINK TO VOLTAGE CHART](#)



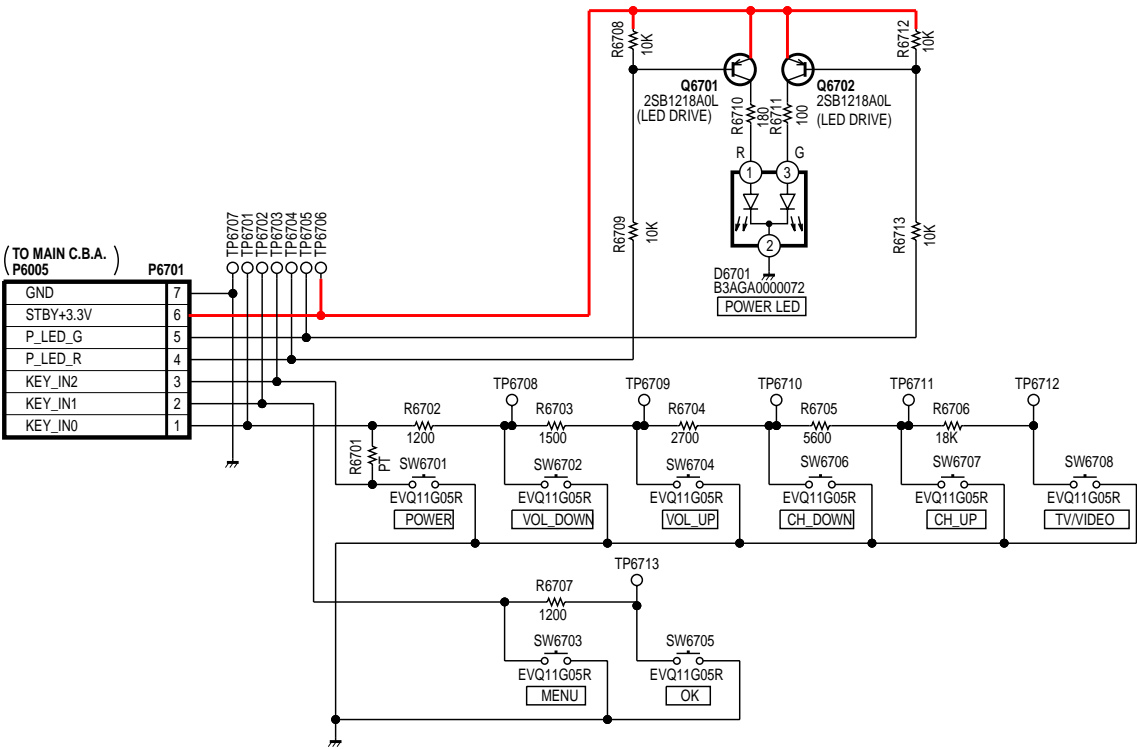
12.11. OPERATION / COVER SWITCH / THERMISTOR 1 / THERMISTOR 2 SCHEMATIC DIAGRAMS

NOTE: For placing a purchase order of the parts,  
be sure to use the part number listed in the parts list.  
Do not use the part number on this diagram.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

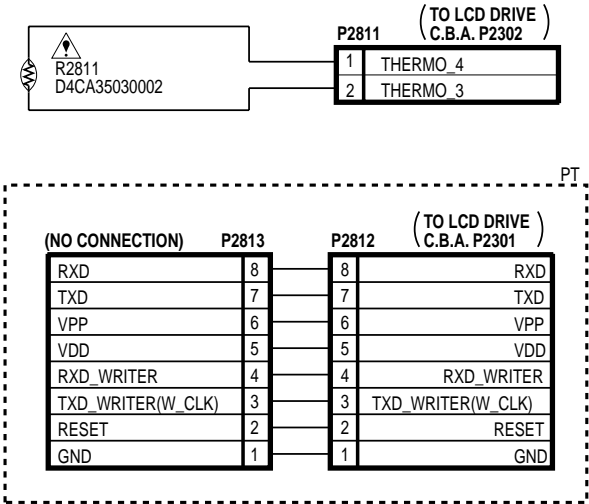
NOTE:  
PARTS MARKED "PT" ARE NOT USED.


OPERATION SCHEMATIC DIAGRAM



LSJB3156

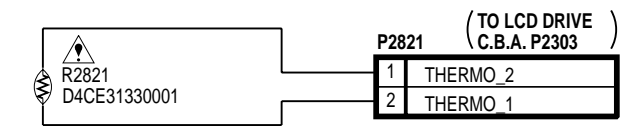
THERMISTOR 1 SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

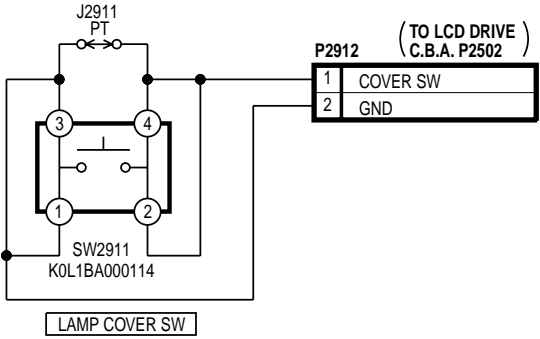
LSJB3166

THERMISTOR 2 SCHEMATIC DIAGRAM



LSJB3137

COVER SWITCH SCHEMATIC DIAGRAM



LSJB3160

[LINK TO VOLTAGE CHART](#)

OPERATION SCHEMATIC DIAGRAM  
COVER SWITCH SCHEMATIC DIAGRAM  
THERMISTOR 1 SCHEMATIC DIAGRAM  
THERMISTOR 2 SCHEMATIC DIAGRAM

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

12.12. VOLTAGE CHART

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A.

PIN NO.	VOLTAGE
IC4101	
1	0
2	0
3	0
4	0
5	0
6	0
7	-5.2
8	0
9	4.9
10	0
11	0
12	0
13	0
14	0
15	0
16	5.0
IC5001	
1	2.5
2	---
3	0
4	1.2
5	3.2
6	0
7	3.2
IC5002	
1	3.2
2	0
3	1.4
4	2.5
5	3.2
IC5003	
1	3.2
2	0
3	1.4
4	2.5
5	3.2
IC5004	
1	3.2
2	1.5
3	0.9
4	1.2
5	0.5
6	0
7	0.1
8	0.8
9	1.2
10	2.5
11	0
12	3.2
13	0.8
14	0.8
15	0.8
16	1.0
17	0.8

PIN NO.	VOLTAGE
18	0.8
19	1.2
20	1.1
21	2.5
22	0
23	3.2
24	0
25	2.9
26	2.8
27	0
28	3.2
29	3.2
30	2.5
31	0
32	3.2
33	3.2
34	0
35	0
36	3.2
37	0
38	2.5
39	0
40	2.5
41	2.0
42	1.2
43	0.5
44	0
45	2.5
46	0
47	2.5
48	2.0
49	1.2
50	0.5
51	0
52	2.5
53	0
54	2.5
55	2.0
56	1.1
57	0.5
58	2.5
59	0
60	1.8
61	1.8
62	1.7
63	1.0
64	1.0
65	0
66	2.5
67	1.2
68	1.0
69	1.0
70	0
71	2.5
72	1.2

PIN NO.	VOLTAGE
73	3.2
74	---
75	2.5
76	1.6
77	0
78	0
79	2.5
80	1.4
81	0
82	0
83	1.4
84	2.5
85	0
86	0
87	1.6
88	2.5
89	---
90	3.2
91	0
92	0
93	0
94	3.2
95	0
96	0
97	0
98	0
99	0
100	0
101	0
102	0
103	0
104	1.5
105	3.2
106	0
107	---
108	---
109	0
110	0
111	1.6
112	0
113	3.2
114	2.5
115	1.1
116	2.0
117	1.0
118	1.5
119	1.4
120	1.1
121	2.0
122	1.0
123	2.5
124	0
125	1.5
126	1.4
127	1.1

PIN NO.	VOLTAGE
128	2.5
129	0.8
130	0.9
131	1.1
132	0.1
133	0
134	3.2
135	2.5
136	1.1
137	2.2
138	0.9
139	1.3
140	1.3
141	1.1
142	1.4
143	0.7
144	0
IC5101	
1	3.2
2	0
3	1.4
4	2.5
5	3.2
IC5102	
1	3.5
2	0
3	1.4
4	2.6
5	3.5
IC5103	
1	---
2	---
3	---
4	---
5	---
6	3.2
7	0
8	2.5
9	0
10	0
11	0
12	3.2
13	0
14	1.6
15	2.5
16	1.6
17	3.2
18	0
19	---
20	0
21	3.2
22	0
23	3.2
24	3.3
25	3.2

PIN NO.	VOLTAGE
26	0
27	2.0
28	2.5
29	0.5
30	1.2
31	0
32	2.0
33	2.5
34	0.5
35	1.2
36	0
37	2.0
38	2.5
39	0.5
40	0.6
41	2.5
42	0
43	1.8
44	1.8
45	1.2
46	1.0
47	1.0
48	0
49	2.5
50	1.1
51	3.2
52	---
53	2.5
54	1.6
55	0
56	0
57	2.5
58	1.4
59	0
60	0
61	3.2
62	3.3
63	3.1
64	2.8
65	2.9
66	2.5
67	0
68	1.6
69	3.2
70	1.6
71	3.2
72	0.1
73	0
74	0
75	0
76	0
77	0
78	3.2
79	0
80	0

PIN NO.	VOLTAGE
81	3.2
82	2.5
83	0
84	0
85	0
86	0
87	0
88	0
89	0
90	0
91	0
92	0
93	0
94	1.6
95	2.5
96	0
97	3.2
98	---
99	---
100	---
IC5105	
1	3.2
2	3.2
3	1.6
4	0
5	0
6	0
7	0
8	0
9	---
10	0
11	0
12	0
13	0
14	0
15	0
16	3.2
IC5304	
1	3.3
2	1.4
3	3.3
4	1.5
5	0.4
6	0
7	1.2
8	0.6
9	3.3
10	0.4
11	0.4
12	0
13	0.5
14	---
15	3.3
16	0
17	3.3

PIN NO.	VOLTAGE
18	3.2
19	3.2
20	0
21	---
22	2.8
23	1.7
24	3.0
25	0.2
26	0.2
27	0.2
28	0
29	3.3
30	0
31	1.6
32	0
33	1.5
34	0.4
35	3.3
36	1.2
37	0.6
38	0
39	0.5
40	0.4
41	3.3
42	0.5
43	3.3
44	0
45	1.3
46	0
47	1.2
48	0.6
49	3.3
50	1.1
51	0.5
52	0
53	0.3
54	0.5
55	3.3
56	0.4
57	0.2
58	0
59	0
60	1.6
61	1.7
62	1.6
63	1.6
64	1.6
65	1.3
66	1.4
67	1.1
68	1.6
69	---
70	---
71	0
72	0

PIN NO.	VOLTAGE
73	---
74	1.4
75	3.3
76	1.4
77	0.6
78	0
79	1.1
80	0.5
81	3.3
82	0.4
83	0.4
84	0
85	0.4
86	0
IC5305	
1	2.5
2	0
3	1.9
IC5306	
1	3.3
2	1.4
3	3.3
4	1.5
5	0.4
6	0
7	1.2
8	0.6
9	3.3
10	0.4
11	0.4
12	0
13	0.5
14	---
15	3.3
16	0
17	3.3
18	3.2
19	3.2
20	0
21	---
22	2.8
23	1.7
24	3.0
25	0.2
26	0.2
27	0.2
28	0
29	3.3
30	0
31	1.6
32	0
33	1.5
34	0.4
35	3.3
36	1.2

PIN NO.	VOLTAGE
37	0.6
38	0
39	0.5
40	0.4
41	3.3
42	0.5
43	3.3
44	0
45	1.3
46	0
47	1.2
48	0.6
49	3.3
50	1.1
51	0.5
52	0
53	0.3
54	0.5
55	3.3
56	0.4
57	0.2
58	0
59	0
60	1.6
61	1.7
62	1.6
63	1.6
64	1.6
65	1.3
66	1.4
67	1.1
68	1.6
69	---
70	---
71	0
72	0
73	---
74	1.4
75	3.3
76	1.4
77	0.6
78	0
79	1.1
80	0.5
81	3.3
82	0.4
83	0.4
84	0
85	0.4
86	0
IC5502	
1	0
2	3.5
3	0
4	0

PIN NO.	VOLTAGE
5	3.5
6	0
7	3.5
8	3.5
IC5505	
1	3.5
2	3.5
3	0
4	0
5	3.5
IC5701	
1	0
2	---
3	---
4	0.6
5	1.3
6	0.8
7	0.3
8	0.3
9	0.3
10	3.5
11	0
12	0.6
13	0.9
14	0
15	3.5
16	3.5
17	0
18	0
19	3.3
20	-0.3
21	0
22	3.5
23	0
24	0
25	0.6
26	0.4
27	0.3
28	0.3
29	0.3
30	0.8
31	0
32	0.6
33	0.9
34	0
35	0
36	0.5
37	0.4
38	0.3
39	0.3
40	0.3
41	0
42	0.9
43	0.5
44	0.9

PIN NO.	VOLTAGE
45	---
46	3.5
47	---
48	0.6
49	0.4
50	0.4
51	0
52	0.4
53	0.4
54	0.9
55	0.7
56	0.9
57	0
58	0
59	0
60	3.5
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
70	0
71	0
72	0
73	0
74	0
75	0
76	3.5
77	0
78	0
79	0
80	3.3
81	0
82	2.7
83	3.3
84	3.3
85	3.5
86	3.5
87	3.5
88	3.3
89	1.7
90	0
91	0
92	-3.0
93	3.5
94	0
95	---
96	3.5
97	---
98	0
99	1.3

PIN NO.	VOLTAGE
100	0
101	0.4
102	0.4
103	0.4
104	0.8
105	0.7
106	0.9
107	0.9
108	---
109	---
110	0.5
111	0
112	3.5
113	1.3
114	0.3
115	0.3
116	0.3
117	0.9
118	0.5
119	0.9
120	3.5
IC5705	
1	3.3
2	0.4
3	0.7
4	0.8
5	0
6	1.6
7	0.7
8	1.0
9	1.0
10	3.3
11	0.7
12	0.6

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
34	3.3	11	0	66	---	121	0	5	3.5	46	0	101	3.3	156	1.7	28	3.6	C	0	Q5109	
35	0	12	0	67	---	122	0	6	0	47	3.3	102	3.5	157	1.7	29	0.5	B	2.4	E	4.1
36	0	13	3.5	68	0	123	0	7	3.5	48	1.8	103	3.3	158	1.7	30	---	Q5006		C	0
37	1.2	14	0	69	3.5	124	0	IC6002		49	---	104	3.3	159	3.3	31	0.5	E	4.1	B	3.4
38	1.3	15	0	70	---	125	0	1	4.9	50	0	105	3.3	160	3.3	32	---	C	0	Q5110	
39	1.3	16	3.5	71	---	126	3.5	2	0	51	3.5	106	3.3	IC6004		33	0.3	B	3.4	E	4.1
40	1.2	17	0	72	0	127	0	3	1.4	52	0	107	3.3	1	3.3	34	---	Q5007		C	0
41	1.2	18	0	73	0	128	0	4	3.3	53	3.2	108	3.3	2	3.3	35	0.3	E	4.1	B	3.5
42	1.3	19	3.5	74	1.9	129	0	5	4.9	54	3.2	109	0	3	0	36	---	C	0	Q5111	
43	0	20	0	75	0	130	0	IC6003		55	0	110	3.3	IC6006		37	3.2	B	3.4	E	0.7
44	3.3	21	0	76	0	131	0	1	3.3	56	0	111	3.3	1	---	38	0.5	Q5008		C	9.1
45	1.2	22	1.9	77	0	132	0	2	0	57	0	112	0.6	2	---	39	---	E	1.2	B	1.3
46	1.4	23	1.9	78	---	133	---	3	1.0	58	3.3	113	3.3	3	5.2	40	0.8	C	9.1	Q5112	
47	1.2	24	0	79	1.9	134	3.5	4	2.0	59	3.3	114	3.3	4	0	41	---	B	1.7	E	1.3
48	1.3	25	0	80	0	135	0	5	1.4	60	0	115	3.3	5	5.2	42	0.7	Q5009		C	9.1
49	0	26	3.5	81	---	136	---	6	1.6	61	0	116	5.2	6	5.2	43	---	E	1.3	B	1.9
50	1.5	27	2.5	82	---	137	---	7	0	62	3.3	117	5.2	7	0	44	0.6	C	9.1	Q5113	
51	3.2	28	2.4	83	---	138	0	8	1.7	63	0	118	0	8	5.2	45	0	B	1.9	E	1.3
52	3.0	29	3.3	84	2.1	139	0	9	1.7	64	0	119	0	IC6007		46	0	Q5010		C	9.1
53	0	30	3.3	85	0	140	---	10	---	65	3.3	120	0	1	0	47	3.2	E	1.3	B	1.9
54	1.0	31	3.3	86	0	141	---	11	3.3	66	1.7	121	3.3	2	5.2	48	1.8	C	9.1	Q5301	
55	0.8	32	3.4	87	0	142	---	12	1.5	67	0	122	3.3	3	0	IC6010		B	1.9	E	1.4
56	0.2	33	0	88	0	143	---	13	1.9	68	1.8	123	0	4	0	1	0	Q5101		C	0
IC5706		34	0	89	3.5	144	---	14	0	69	0	124	3.3	5	5.2	2	0	E	3.8	B	0.7
1	5.2	35	1.9	90	0	IC5807		15	3.2	70	2.5	125	3.3	6	5.2	3	0	C	9.1	Q5302	
2	0	36	0	91	0	1	0	16	3.3	71	1.3	126	0	7	0	4	5.3	B	4.4	E	0.7
3	1.3	37	3.4	92	1.9	2	0	17	3.3	72	1.3	127	0	8	5.2	5	1.4	Q5102		C	0
4	0	38	3.5	93	---	3	0	18	3.3	73	0	128	1.6	IC6009		6	4.1	E	0	B	0
5	5.2	39	1.4	94	1.9	4	0	19	0	74	1.6	129	1.6	1	2.2	7	0	C	0	Q5509	
IC5801		40	1.4	95	0	5	0	20	1.8	75	2.6	130	1.6	2	0	8	0	B	3.5	E	2.6
1	0	41	0	96	3.5	6	3.1	21	3.3	76	1.5	131	0	3	1.0	9	0	Q5103		C	5.2
2	0	42	3.5	97	3.1	7	0	22	3.5	77	3.3	132	1.6	4	2.0	10	0	E	3.8	B	3.3
3	0	43	1.4	98	3.5	8	4.9	23	3.5	78	0.9	133	1.6	5	2.3	11	0	C	9.1	Q5518	
4	0	44	1.4	99	3.5	9	4.9	24	3.5	79	2.6	134	1.6	6	1.5	12	1.8	B	4.4	E	2.6
5	2.5	45	0	100	---	10	0.4	25	0	80	2.3	135	1.6	7	2.7	13	1.4	Q5104		C	5.2
6	2.5	46	3.5	101	0	11	0.4	26	3.3	81	1.0	136	1.6	8	1.1	14	4.1	E	0	B	1.9
7	0.1	47	1.4	102	3.1	12	0	27	3.3	82	3.3	137	1.6	9	---			C	0	Q5519	
8	1.6	48	1.4	103	0	13	0	28	3.3	83	0	138	1.6	10	---	Q5001		B	0.7	E	5.2
IC5803		49	0	104	3.5	14	4.9	29	0	84	2.5	139	0	11	3.6	E	3.8	Q5105		C	0
1	5.0	50	3.5	105	1.9	15	4.8	30	0	85	2.5	140	3.3	12	2.2	C	9.1	E	2.1	B	5.2
2	0	51	1.4	106	0	16	0	31	0	86	3.3	141	1.6	13	---	B	4.4	C	9.1	Q5520	
3	1.4	52	1.4	107	---	IC5808		32	0	87	0.2	142	1.6	14	---	Q5002		B	2.7	E	0
4	3.3	53	0	108	0	1	4.5	33	0	88	3.5	143	1.6	15	---	E	3.8	Q5106		C	3.5
5	5.0	54	0	109	3.5	2	4.5	34	0	89	3.3	144	1.6	16	---	C	9.1	E	3.9	B	0
IC5805		55	3.4	110	0	3	4.5	35	0	90	2.8	145	---	17	1.2	B	4.4	C	9.1	Q5801	
1	0	56	1.6	111	0	4	0	36	0	91	0	146	0	18	1.9	Q5003		B	4.5	E	0
2	0	57	3.5	112	0	5	4.5	37	0	92	0	147	0	19	1.3	E	3.9	Q5107		C	0
3	0.1	58	---	113	0	6	4.5	38	0	93	1.8	148	0	20	1.5	C	9.1	E	3.9	B	0.7
4	0	59	---	114	1.9	7	4.5	39	0	94	1.0	149	0	21	1.4	B	4.5	C	9.1	Q5802	
5	3.5	60	0	115	0	8	9.1	40	3.3	95	0	150	1.6	22	1.8	Q5004		B	4.5	E	0
6	3.5	61	3.5	116	0	IC5809		41	0	96	3.3	151	1.4	23	1.5	E	3.9	Q5108		C	3.0
7	3.5	62	---	117	0	1	1.8	42	0	97	3.3	152	1.6	24	1.8	C	9.1	E	2.6	B	0
8	0	63	---	118	0	2	---	43	0	98	0	153	3.3	25	0	B	4.5	C	0	Q5803	
9	0	64	0	119	0	3	0	44	0	99	1.7	154	0	26	3.6	Q5005		B	1.9	E	0
10	0	65	3.5	120	0	4	0.6	45	0	100	1.7	155	1.6	27	0	E	3.1			C	3.0

VOLTAGE CHART  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

BASE C.B.A.

PIN NO.	VOLTAGE
C	5.2
B	2.4
Q6008	
E	2.0
C	5.0
B	2.4
Q6009	
E	2.0
C	5.2
B	2.6
Q6010	
E	1.3
C	5.2
B	2.0
Q6011	
E	0
C	---
B	0
Q6012	
E	0
C	0.2
B	0.7
Q6013	
E	0
C	0
B	0.7
TP3401	4.5
TP3402	4.1
TP3403	4.5
TP3404	4.5
TP3405	4.5
TP3406	4.5
TP4101	4.7
TP4102	4.7
TP5301	0.5
TP5302	0.5
TP5303	0.5
TP5701	0
TP5702	0
TP5703	0
TP5710	3.5
TP5711	3.5
TP5712	0
TP5713	0
TP5714	3.5
TP5715	0
TP5801	3.1
TP5802	3.1
TP5803	3.0
TP5804	3.1
TP5805	3.1
TP5806	3.0
TP5808	3.0
TP5809	0

[illegible]

PIN NO.	VOLTAGE
IC1101	
1	10.8
2	0
3	1.3
4	5.1
5	10.8
IC1103	
1	5.3
2	5.3
3	9.2
4	9.2
5	9.2
6	9.2
7	8.4
8	11.0
9	0
10	2.5
11	5.0
12	2.3
13	2.5
14	4.5
15	5.3
16	5.3
17	0
18	0
19	9.2
20	6.5
21	2.3
22	5.3
23	5.3
24	5.3
25	5.3
26	0
IC1105	
1	3.5
2	3.5
3	9.2
4	9.2
5	9.2
6	9.2
7	8.4
8	11.0
9	0
10	2.5
11	5.0
12	2.3
13	2.5
14	4.5
15	3.5
16	3.6
17	0
18	0
19	9.2
20	6.7
21	0

PIN NO.	VOLTAGE
22	3.5
23	3.5
24	3.5
25	3.5
26	0
IC1106	
1	2.6
2	2.6
3	9.2
4	9.2
5	9.2
6	9.2
7	8.4
8	11.0
9	0
10	2.5
11	5.0
12	1.5
13	2.5
14	4.5
15	2.6
16	2.7
17	0
18	0
19	9.2
20	6.7
21	0
22	2.6
23	2.6
24	2.6
25	2.6
26	0
IC3001	
1	5.4
2	8.6
3	5.4
4	1.9
5	5.4
6	8.6
7	5.4
8	8.8
9	5.4
10	1.6
11	5.4
12	8.6
13	5.4
14	0
15	5.4
16	5.4
17	3.7
18	0
19	---
20	0
21	5.4
22	0

PIN NO.	VOLTAGE
23	5.4
24	0
25	5.4
26	0
27	5.4
28	0
29	5.4
30	0
31	5.4
32	0
33	5.4
34	0
35	5.4
36	0
37	5.4
38	0
39	5.4
40	0
41	5.4
42	0
43	5.4
44	0
45	5.0
46	5.0
47	8.8
48	---
49	---
50	---
51	3.8
52	---
53	8.8
54	3.8
55	3.8
56	3.8
57	8.8
58	3.8
59	3.8
60	3.8
61	---
62	0
63	---
64	---
65	---
66	---
67	---
68	0
69	---
70	0
71	---
72	---
73	---
74	0
75	---
76	0
77	5.4

PIN NO.	VOLTAGE
78	---
79	5.4
80	2.3
IC4001	
1	4.8
2	4.8
3	4.5
4	0
5	4.6
6	4.8
7	4.8
8	9.1
IC4002	
1	4.7
2	4.7
3	4.7
4	4.8
5	4.7
6	0
7	0
8	0
9	0.3
10	0.3
11	4.8
12	4.7
13	4.7
14	4.7
15	4.7
16	9.1
IC4003	
1	4.7
2	4.7
3	4.7
4	4.8
5	4.7
6	0
7	0
8	0
9	0.3
10	0.3
11	4.8
12	4.7
13	4.7
14	4.7
15	4.7
16	9.1
IC4004	
1	4.7
2	4.7
3	4.7
4	4.8
5	4.7
6	0
7	0
8	0

PIN NO.	VOLTAGE
9	0.3
10	0.3
11	4.8
12	4.7
13	4.7
14	4.7
15	4.7
16	9.1
IC4005	
1	4.8
2	4.8
3	4.6
4	0
5	4.5
6	4.8
7	4.8
8	9.1
IC4201	
1	4.6
2	4.6
3	4.6
4	4.6
5	4.6
6	4.6
7	4.6
8	4.6
9	0.9
10	4.6
11	1.5
12	0.9
13	5.0
14	5.0
15	0
16	9.1
17	---
18	---
19	3.8
20	3.8
21	0
22	4.6
23	4.6
24	4.6
25	4.6
26	4.6
27	4.6
28	4.6
29	4.6
30	4.6
IC4501	
1	-9.6
2	---
3	-4.0
4	-4.0
5	15.9
6	12.1

PIN NO.	VOLTAGE
7	0
8	-16.2
9	-3.4
10	-16.2
11	0
12	12.1
13	15.9
14	-4.0
15	---
16	-10.0
17	-9.7
IC4502	
1	-9.6
2	0
3	0
4	-16.2
5	0
6	0
7	-9.7
8	11.3
Q1101	
E	0
C	4.1
B	0
Q1102	
E	4.1
C	0
B	4.1
Q1103	
E	5.1
C	5.0
B	4.4
Q1104	
E	0
C	0
B	0.7
Q1105	
E	5.1
C	-1.6
B	5.1
Q1106	
E	0
C	5.1
B	0
Q1107	
E	0
C	0
B	0.7
Q1108	
E	0
C	0
B	0.7
Q1109	
E	5.2

PIN NO.	VOLTAGE
C	0.3
B	5.5
Q1110	
E	3.0
C	-2.1
B	3.5
Q1111	
E	0
C	0
B	0.7
Q1112	
1	5.3
2	5.3
3	5.3
4	0
5	5.3
6	5.3
7	5.3
8	5.3
Q1113	
E	0
C	0
B	0.8
Q1114	
E	0
C	0
B	0.7
Q3001	
E	4.4
C	0
B	3.8
Q3002	
E	4.4
C	0
B	3.8
Q3003	
E	4.4
C	0
B	3.8
Q3004	
E	4.4
C	0
B	3.8
Q3005	
E	4.4
C	0
B	3.8
Q3006	
E	4.4
C	0
B	3.8
Q3007	
E	0
C	-3.3
B	0

PIN NO.	VOLTAGE
Q3008	
E	0
C	0
B	-3.3
Q3009	
E	0
C	0
B	-3.3
Q3201	
E	4.4
C	0
B	3.8
Q3202	
E	2.6
C	0
B	1.9
Q3203	
E	2.6
C	0
B	1.9
Q3204	
E	2.6
C	0
B	1.9
Q3205	
E	3.7
C	6.8
B	4.4
Q3206	
E	1.9
C	3.7
B	2.6
Q3207	
E	3.7
C	6.8
B	4.4
Q3208	
E	3.7
C	6.8
B	4.4
Q3209	
E	1.8
C	3.6
B	2.6
Q3210	
E	6.1
C	8.4
B	6.8
Q3211	
E	6.1
C	8.4
B	6.8
Q3212	
E	6.1
C	8.4

[illegible]

## VOLTAGE CHART

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

LCD DRIVE C.B.A.

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC2001		55	9.7	45	7.1	35	7.1	25	---	36	0	12	1.2	4	7.0			B	0
1	---	56	15.6	46	15.6	36	0	26	0	37	0	13	3.3	5	1.4			Q2009	
2	---	57	0	47	7.1	37	7.1	27	0	38	3.4	14	0	IC2903				E	15.6
3	1.3	58	0	48	0	38	15.6	28	15.5	39	3.4	15	1.3	1	3.4			C	1.8
4	0.6	59	3.4	49	7.1	39	7.1	29	---	40	0	16	1.2	2	9.2			B	15.7
5	1.1	60	1.8	50	15.6	40	0	30	15.6	41	3.2	17	1.2	3	0			Q2010	
6	1.6	61	0.5	51	7.1	41	7.1	IC2301		42	3.4	18	1.3	4	8.1			E	0
7	1.6	62	1.7	52	0	42	15.6	1	3.4	43	0	19	1.3	5	1.4			C	1.5
8	0.7	63	0	53	7.1	43	7.1	2	3.4	44	0	20	1.2	IC2904				B	0.2
9	1.3	64	3.4	54	9.7	44	0	3	3.4	45	3.4	21	0	1	3.4			Q2301	
10	1.2	IC2002		55	9.7	45	7.1	4	0	46	3.4	22	0	2	9.2			E	3.4
11	0.4	1	---	56	15.6	46	15.6	5	3.4	47	3.4	23	3.3	3	0			C	3.4
12	1.2	2	---	57	0	47	7.1	6	3.4	48	0	24	0	4	7.1			B	2.8
13	3.4	3	1.3	58	0	48	0	7	3.4	49	0	25	3.3	5	1.4				
14	3.4	4	0.6	59	3.4	49	7.1	8	3.4	50	0	26	1.7	IC2905				TP2001	7.1
15	3.4	5	1.1	60	1.8	50	15.6	IC2302		51	0	27	3.3	1	1.5			TP2002	7.1
16	3.4	6	1.6	61	0.5	51	7.1	1	3.4	52	1.6	28	0	2	0.2			TP2003	7.1
17	3.4	7	1.6	62	1.7	52	0	2	3.4	53	3.4	29	3.1	3	0			TP2004	5.6
18	0	8	0.7	63	0	53	7.1	3	0	54	0	30	1.0	4	0			TP2005	5.7
19	3.4	9	1.3	64	3.4	54	9.7	IC2303		55	0	31	3.3	5	1.7			TP2006	5.7
20	0	10	1.2	IC2003		55	9.7	1	0	56	3.4	32	0.8	6	1.7			TP2501	0
21	0	11	0.4	1	---	56	15.6	2	2.3	57	3.4	33	0.6	7	1.7			TP2901	0
22	5.3	12	1.2	2	---	57	0	3	0	58	3.4	34	0.4	8	7.1			TP2902	3.4
23	5.3	13	3.4	3	1.3	58	0	4	3.2	59	2.5	35	0.5					TP2903	3.4
24	6.5	14	3.4	4	0.6	59	3.4	5	3.4	60	3.0	36	0	Q2001				TP2904	3.4
25	5.7	15	3.4	5	1.1	60	1.8	6	3.4	61	0	37	0.6	E	15.6			TP2905	3.4
26	15.6	16	3.4	6	1.6	61	0.5	7	3.4	62	3.4	38	0.5	C	1.5			TP2906	15.6
27	4.6	17	3.4	7	1.6	62	1.7	8	1.6	63	1.5	39	0.6	B	15.7			TP2907	7.0
28	0	18	0	8	0.7	63	0	9	1.7	64	2.0	40	3.3	Q2002				TP2908	8.1
29	7.1	19	3.4	9	1.3	64	3.4	10	0	IC2501		41	0.9	E	0			TP2909	7.1
30	15.6	20	0	10	1.2	IC2004		11	0	1	1.9	42	0.8	C	1.1			TP2910	15.6
31	7.1	21	0	11	0.4	1	15.6	12	---	2	---	43	0.7	B	0.3			TP2911	7.1
32	0	22	5.3	12	1.2	2	3.5	13	0	3	0	44	0	Q2003				TP2912	8.1
33	7.1	23	5.3	13	3.4	3	---	14	3.4	4	0.6	45	0.5	E	15.6			TP2913	7.1
34	15.6	24	6.5	14	3.4	4	---	15	3.4	5	3.4	46	0.7	C	1.6			TP2914	0.2
35	7.1	25	5.7	15	3.4	5	3.4	16	3.4	6	0	47	0.7	B	15.7			TP2915	0
36	0	26	15.6	16	3.4	6	0	17	0	7	3.5	48	0.6	Q2004				TP2916	0
37	7.1	27	4.6	17	3.4	7	0	18	3.4	IC2502		49	3.3	E	0				
38	15.6	28	0	18	0	8	3.4	19	3.4	1	5.3	50	0.7	C	1.2				
39	7.1	29	7.1	19	3.4	9	1.8	20	3.4	2	0	51	1.0	B	0.2				
40	0	30	15.6	20	0	10	3.3	21	0	3	1.7	52	0	Q2005					
41	7.1	31	7.1	21	0	11	1.7	22	0	4	0	53	0.9	E	15.6				
42	15.6	32	0	22	5.3	12	---	23	1.7	5	5.3	54	1.0	C	1.3				
43	7.1	33	7.1	23	5.3	13	---	24	0	IC2503		55	0.3	B	15.7				
44	0	34	15.6	24	6.5	14	0	25	1.8	1	0.6	56	3.3	Q2006					
45	7.1	35	7.1	25	5.7	15	0	26	0	2	0.9	IC2901		E	0				
46	15.6	36	0	26	15.6	16	0	27	0	3	1.6	1	3.4	C	1.2				
47	7.1	37	7.1	27	4.6	17	---	28	3.4	4	0	2	16.6	B	0.2				
48	0	38	15.6	28	0	18	7.2	29	0.2	5	0.7	3	0	Q2007					
49	7.1	39	7.1	29	7.1	19	8.1	30	0	6	3.3	4	15.6	E	15.6				
50	15.6	40	0	30	15.6	20	0.5	31	0	7	1.6	5	1.1	C	1.6				
51	7.1	41	7.1	31	7.1	21	---	32	0	8	0	IC2902		B	15.7				
52	0	42	15.6	32	0	22	7.8	33	3.4	9	1.3	1	3.4	Q2008					
53	7.1	43	7.1	33	7.1	23	7.8	34	3.4	10	1.2	2	9.2	E	0				
54	9.7	44	0	34	15.6	24	0	35	0	11	1.3	3	0	C	1.2				

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

## POWER C.B.A.

PIN NO.	VOLTAGE
IC1001	
1	171.3
2	---
3	0
4	19.5
5	0.1
6	1.5
7	0.5
IC1002	
1	9.2
2	8.1
3	8.5
4	19.5
IC1003	
1	2.5
2	0
3	10.7
Q801	
E	0
C	0
B	0.8
Q1001	
E	0
C	0.6
B	0.6
Q1002	
E	0
C	22.0
B	0.6
Q1003	
E	22.6
C	19.0
B	23.1
Q1004	
E	0
C	0.6
B	0.6
Q1005	
E	0
C	18.9
B	0.6
Q1006	
E	19.6
C	16.9
B	20.2
TP803	10.7
TP804	14.1
TP809	0
TP810	10.7
TP811	3.4
TP1001	30.9
TP1002	18.0
TP1003	0

[illegible]

BALLAST C.B.A.

PIN NO.	VOLTAGE
IC1302	
1	16.9
2	19.3
3	0
4	3.4
IC1303	
1	1.2
2	0
3	13.2
4	13.3
IC1304	
1	0.7
2	0
3	0
4	2.8
Q1301	
E	18.9
C	18.8
B	18.2
Q1302	
E	0
C	0
B	0.7
Q1304	
S	0
D	246.5
G	4.1
Q1305	
E	0
C	5.1
B	0
Q1306	
S	42.0
D	83.9
G	49.2
Q1307	
S	0
D	41.9
G	8.0
Q1308	
S	41.8
D	83.7
G	49.1
Q1309	
S	0
D	41.8
G	8.0
Q1310	
S	0
D	2.3
G	0
TP1301	331.3
TP1302	0

[illegible]

# OPERATIONC.B.A.

[illegible]

FRONT JACK C.B.A.

[illegible]

**VOLTAGE CHART**  
**PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K**

## 13 CIRCUIT BOARD LAYOUT

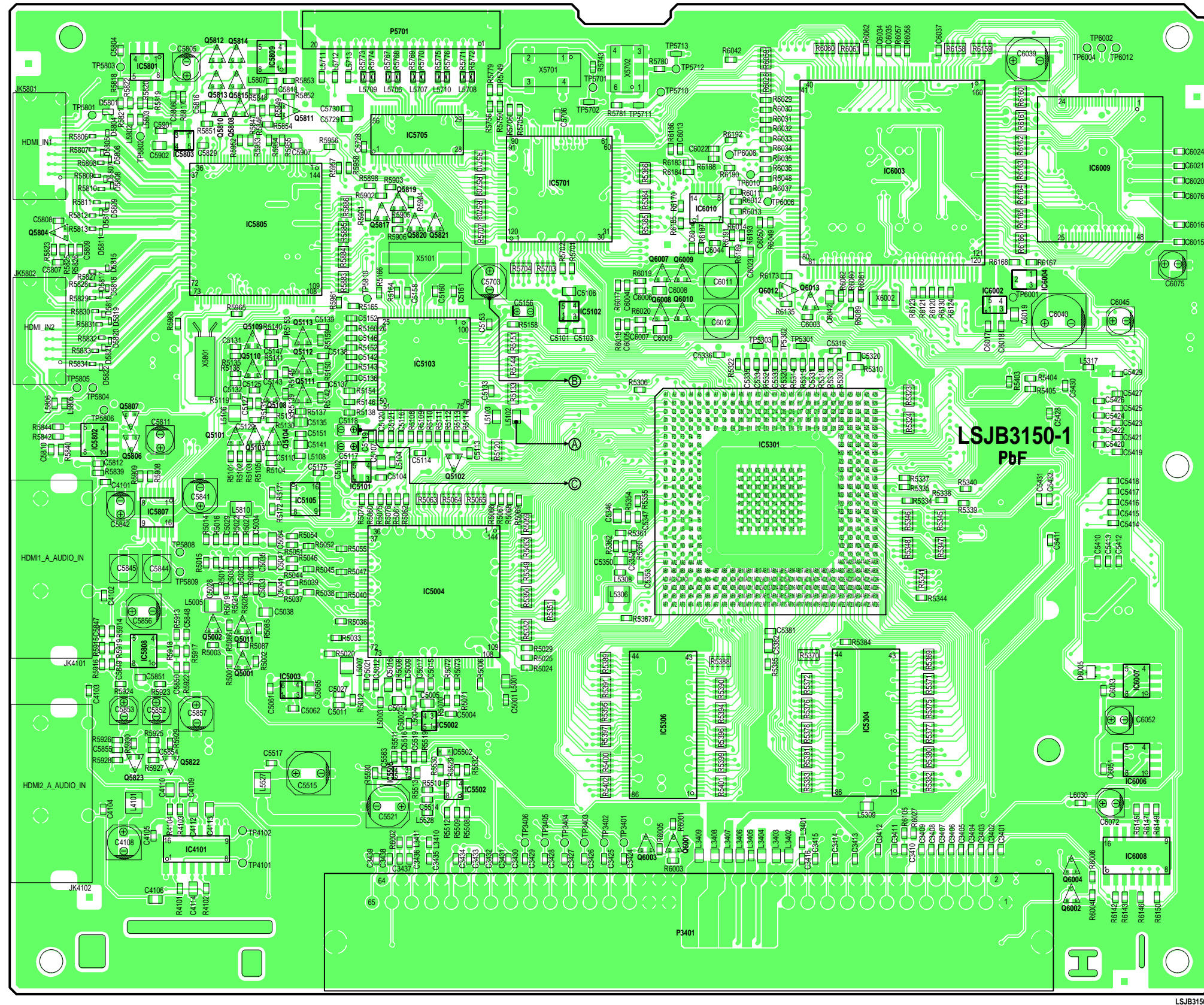
### 13.1. MAIN C.B.A.

**MAIN C.B.A. LSEB3150A (SUFFIX (VERSION) NUMBER①)**

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

**NOTE: MULTILAYER C.B.A.**  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

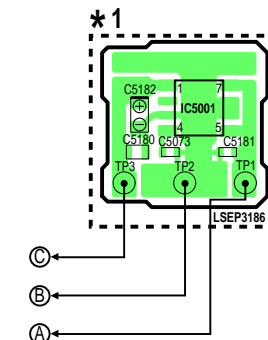
**(COMPONENT SIDE)**



**NOTE:**  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**\*1: REFER TO MAIN C.B.A. REPLACEMENT NOTE OF SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.**

**MAIN CHILD C.B.A.**  
**LSEP3186A**



MAIN C.B.A. LSEB3150A

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

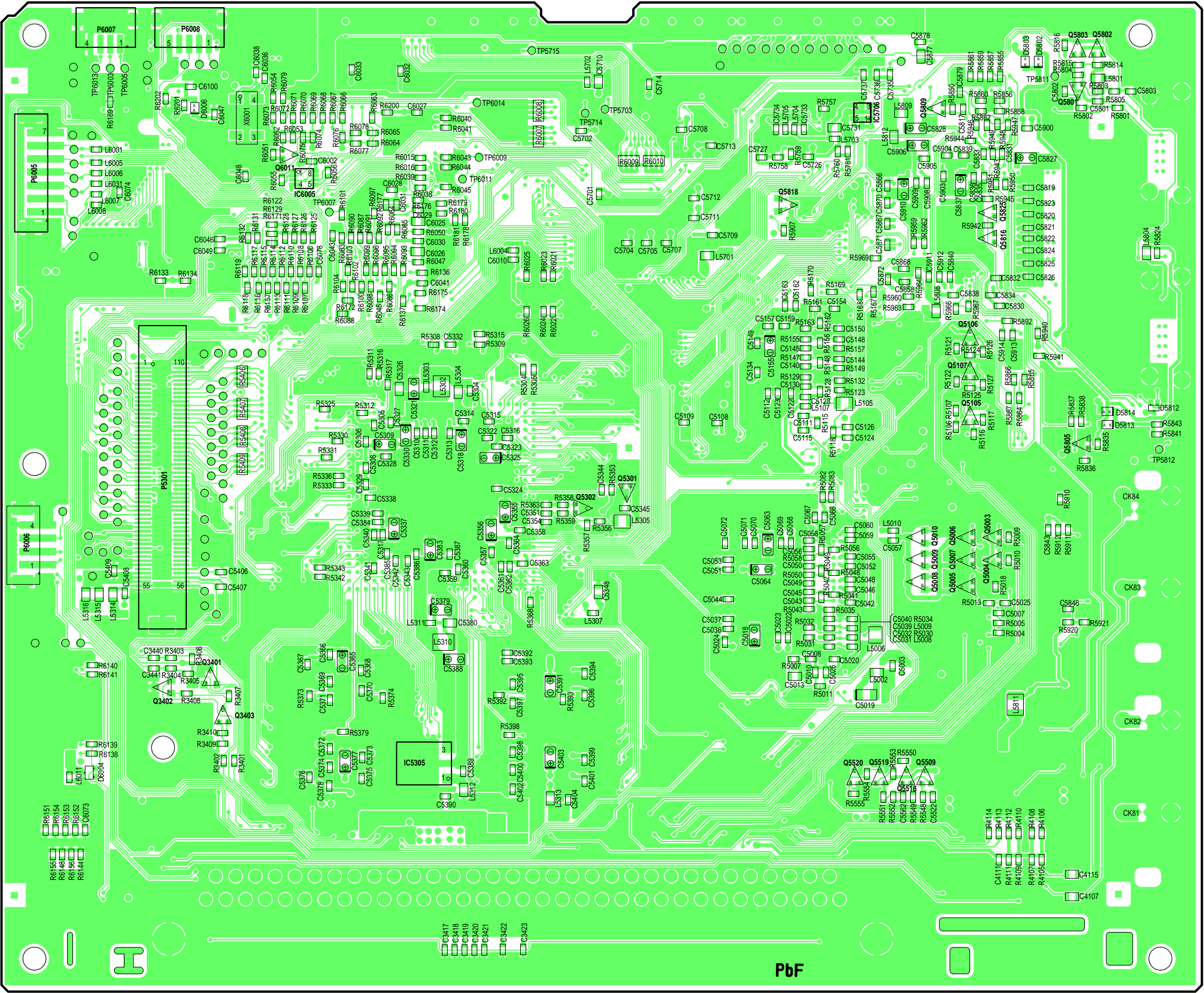


# MAIN C.B.A. LSEB3150A (SUFFIX (VERSION) NUMBER①)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

**NOTE:**  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**(FOIL SIDE)**



**NOTE: MULTILAYER C.B.A.**  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

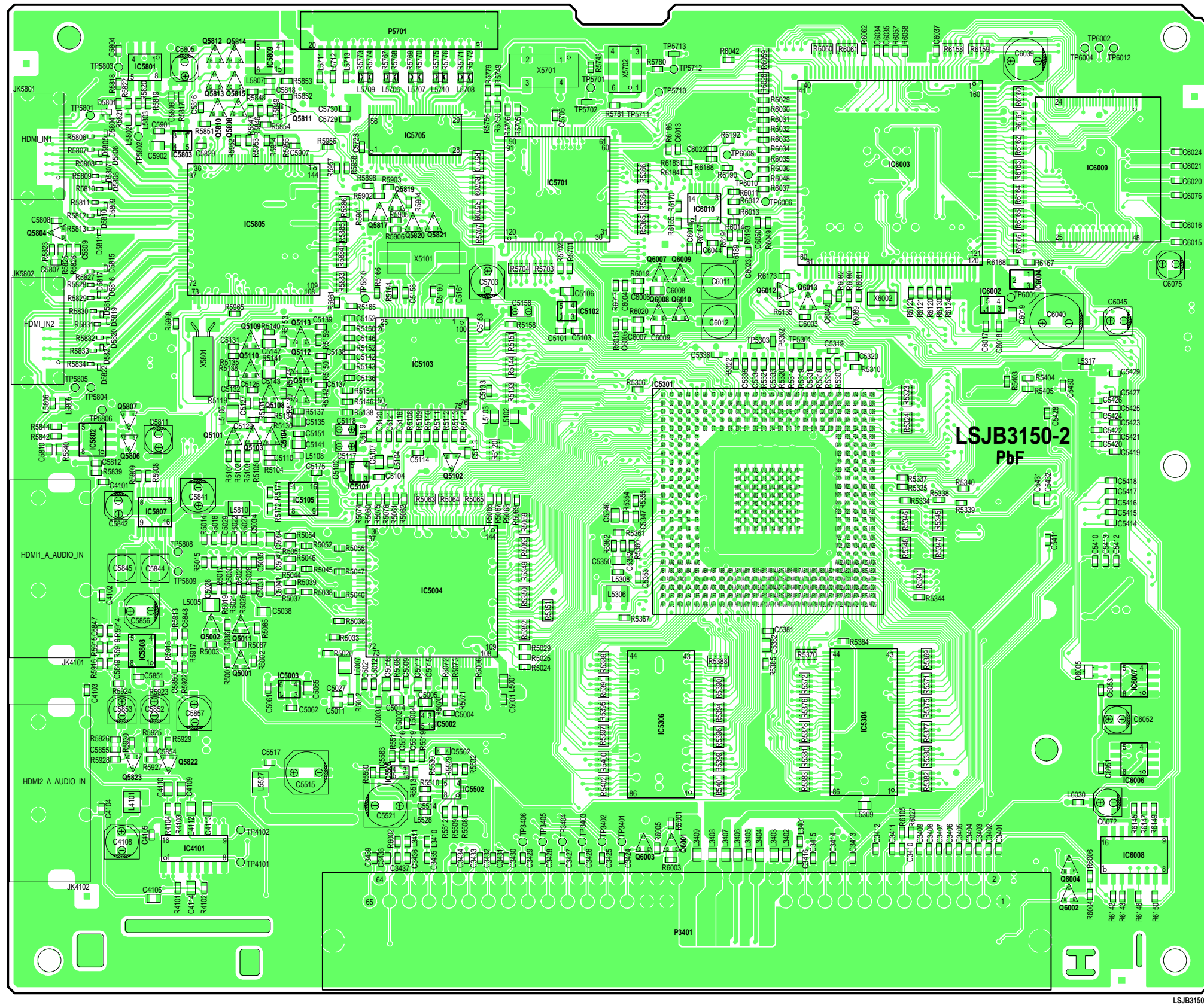
**MAIN C.B.A. LSEB3150A**

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



**MAIN C.B.A. LSEB3150A (SUFFIX (VERSION) NUMBER②)**

**(COMPONENT SIDE)**



NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

**NOTE: MULTILAYER C.B.A.**  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

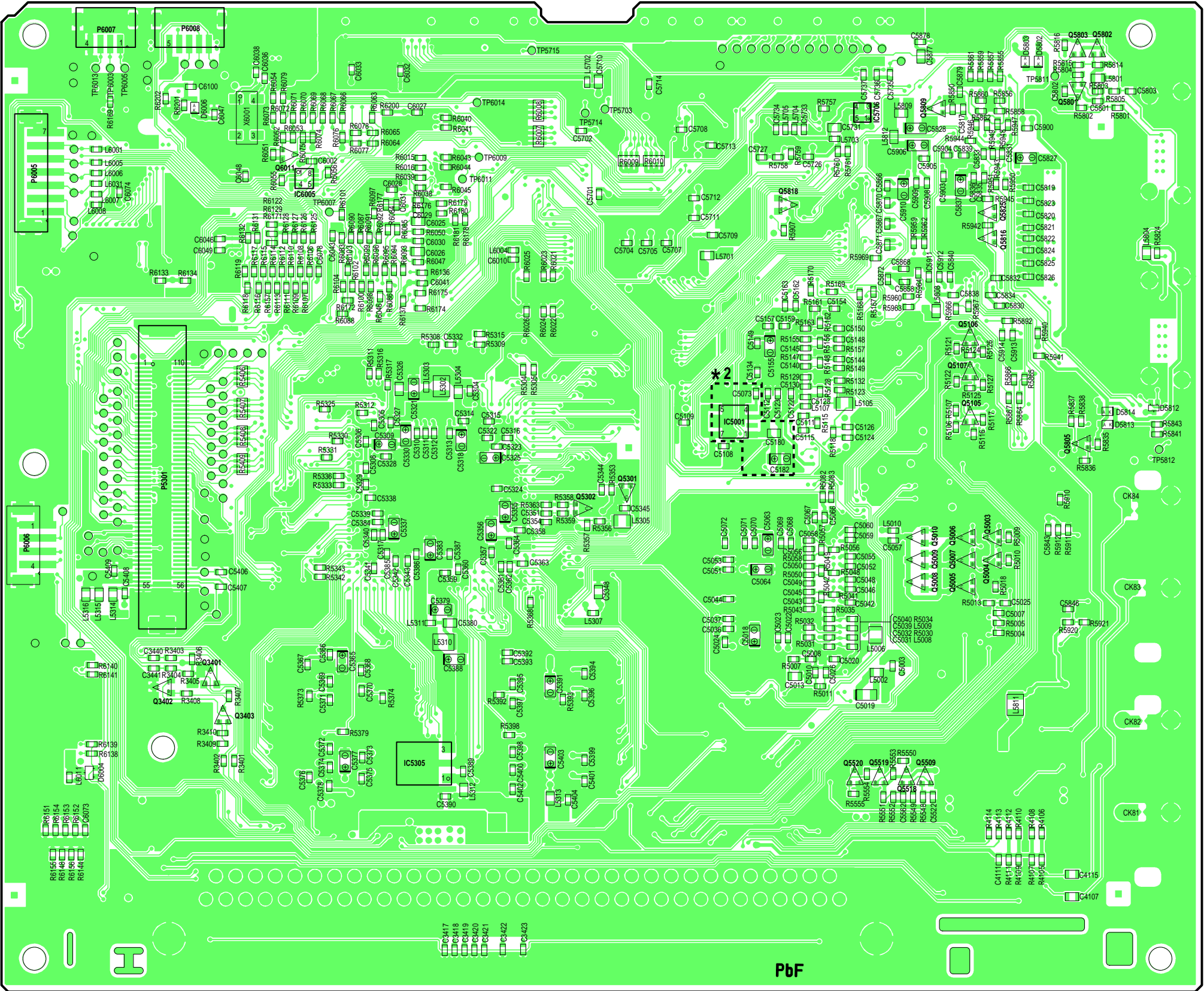
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**MAIN C.B.A. LSEB3150A**

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

MAIN C.B.A. LSEB3150A (SUFFIX (VERSION) NUMBER②)

(FOIL SIDE)



NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE: **MULTILAYER C.B.A.**  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN  
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH  
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

\*2: REFER TO MAIN C.B.A. REPLACEMENT NOTE OF SCHEMATIC  
DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.

PbF

LSJB3150


MAIN C.B.A. LSEB3150A

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



### 13.2. BASE C.B.A.

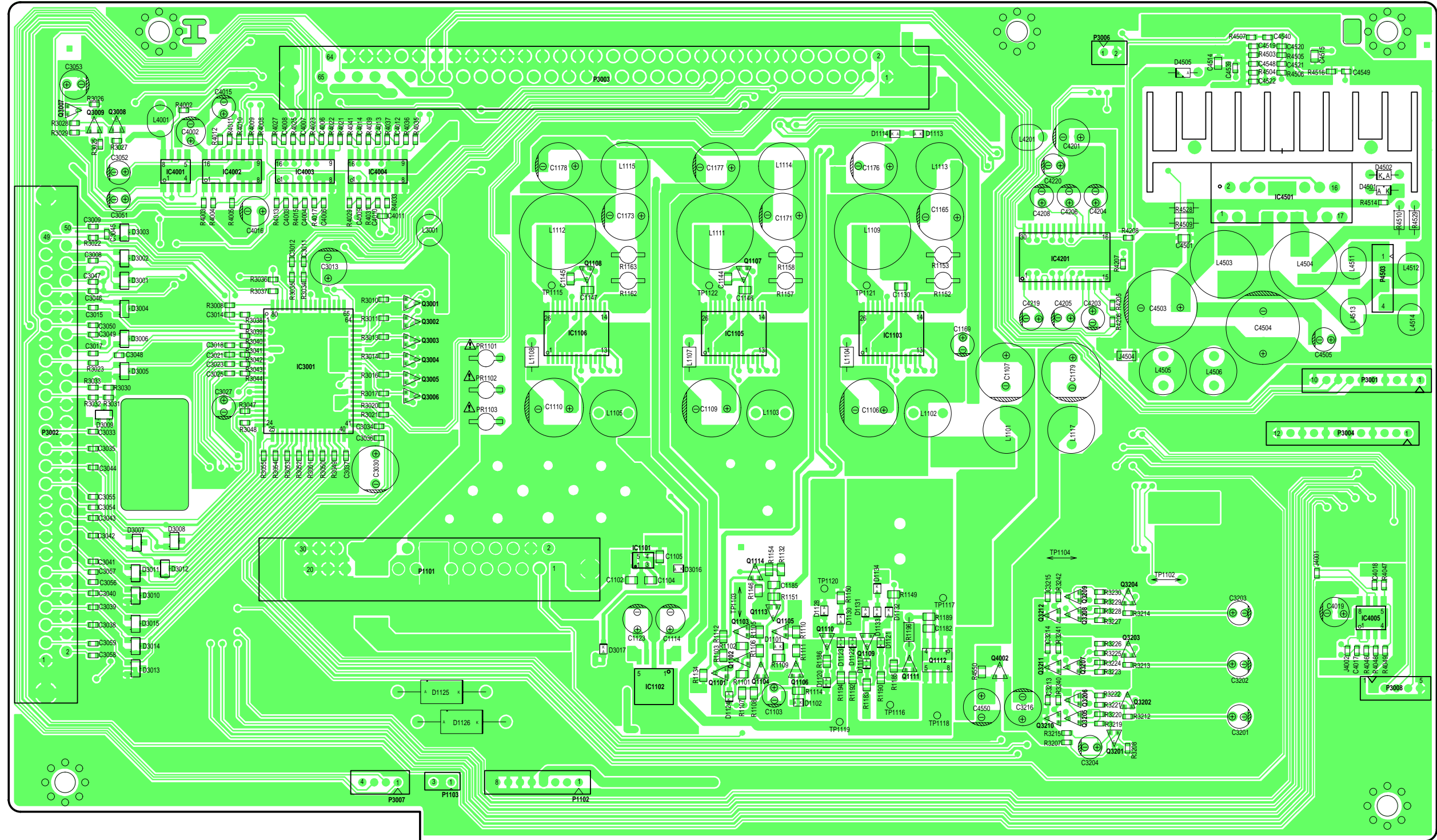
**BASE C.B.A. LSEP3152A**

**IMPORTANT SAFETY NOTICE:**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**(COMPONENT SIDE)**



LSJB3152

**(DUAL PATTERNS)**

**BASE C.B.A. LSEP3152A**

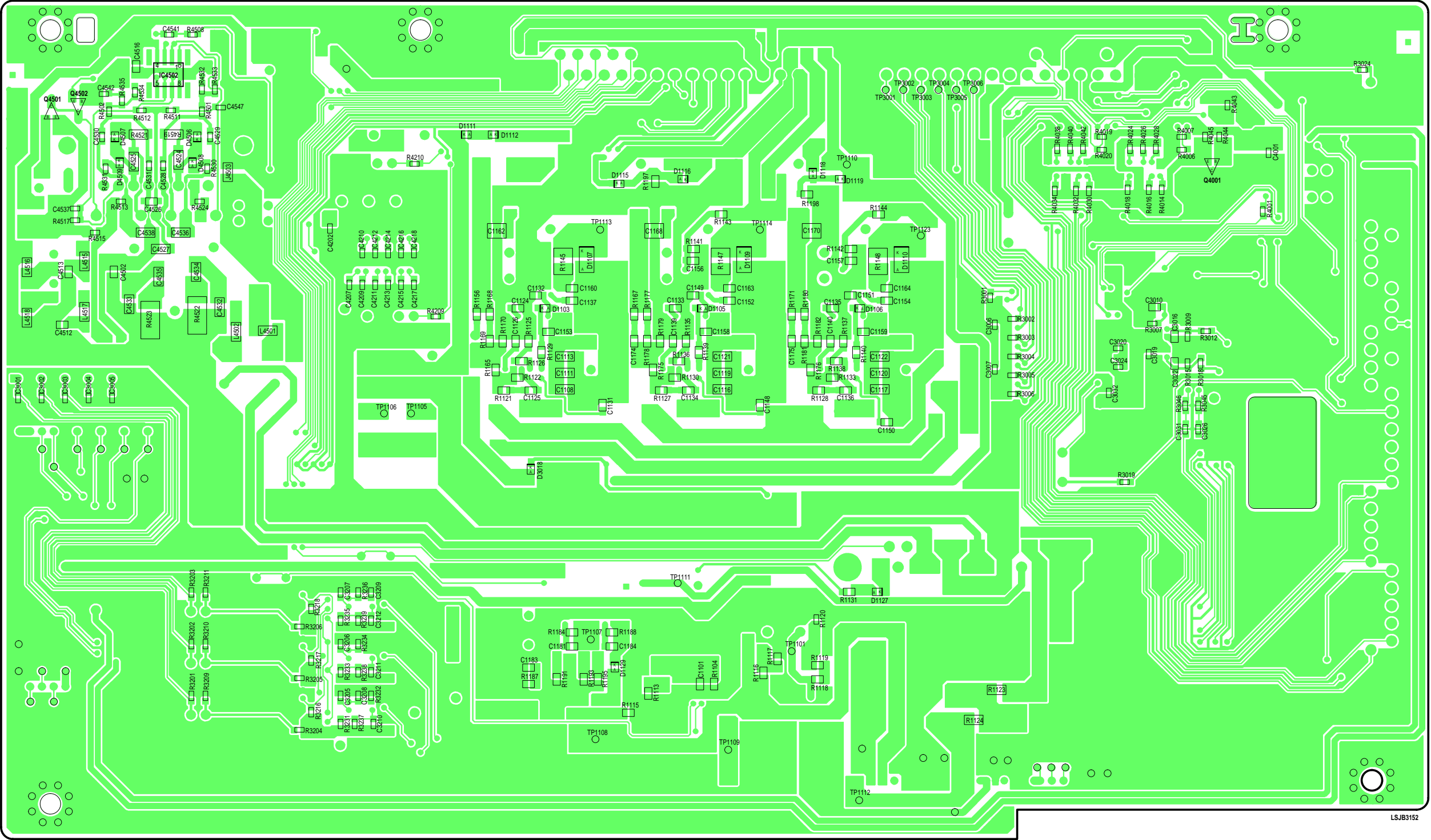
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

BASE C.B.A. LSEP3152A

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

(FOIL SIDE)



LSJB3152

(DUAL PATTERNS)


BASE C.B.A. LSEP3152A  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

## 13.3. POWER C.B.A.

## POWER C.B.A. LSEP3153A

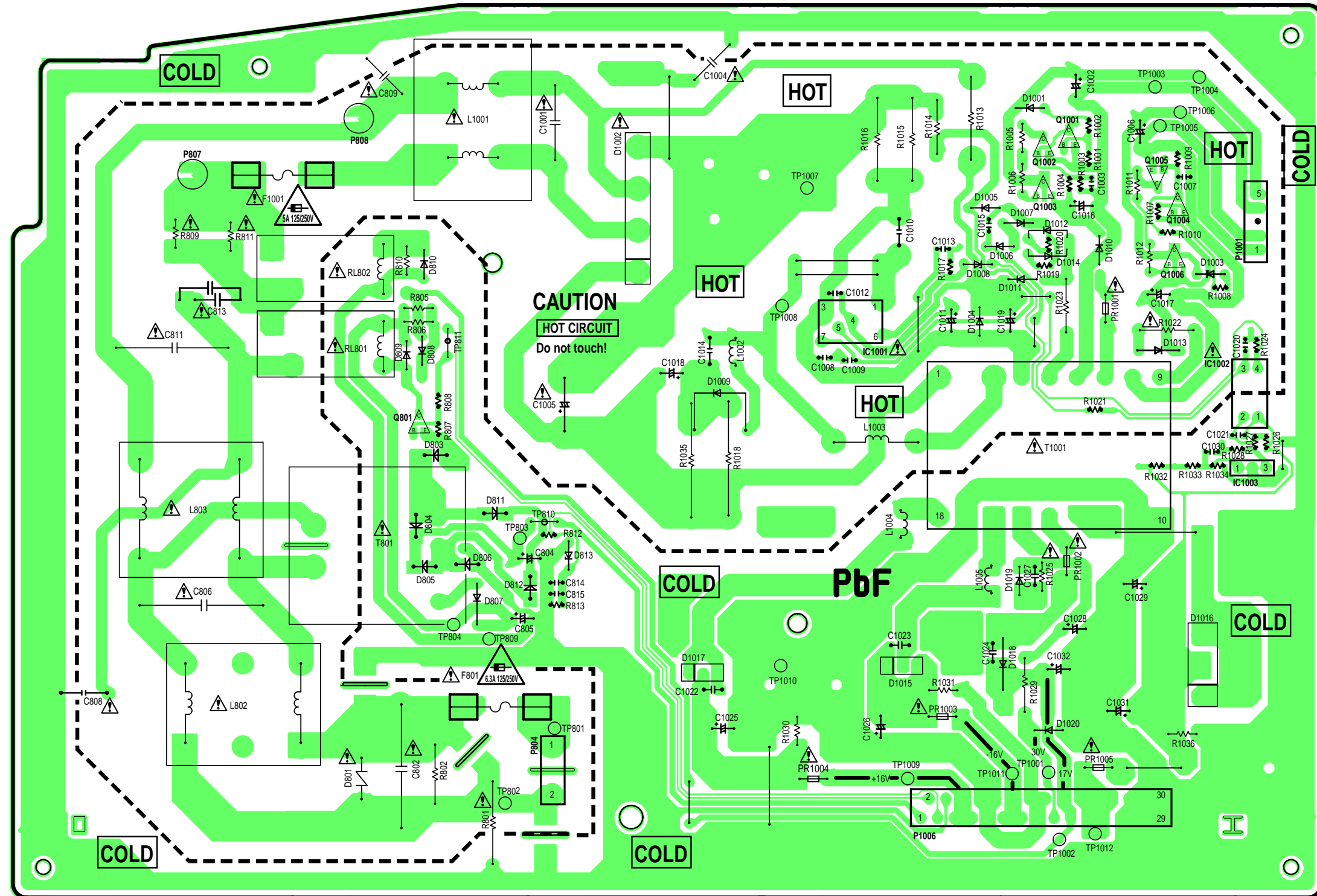
NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 5A 125/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D' INCENDIE N' UTILISER QUE DES FUSIBLE DE MÊME  
TYPE 5A 125/250V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 6.3A 125V/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D' INCENDIE N' UTILISER QUE DES FUSIBLE DE MÊME  
TYPE 6.3A 125V/250V




HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.

LSJB3153

13.4. BALLAST C.B.A.

BALLAST C.B.A. LSEB3163A  
(COMPONENT SIDE)

IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

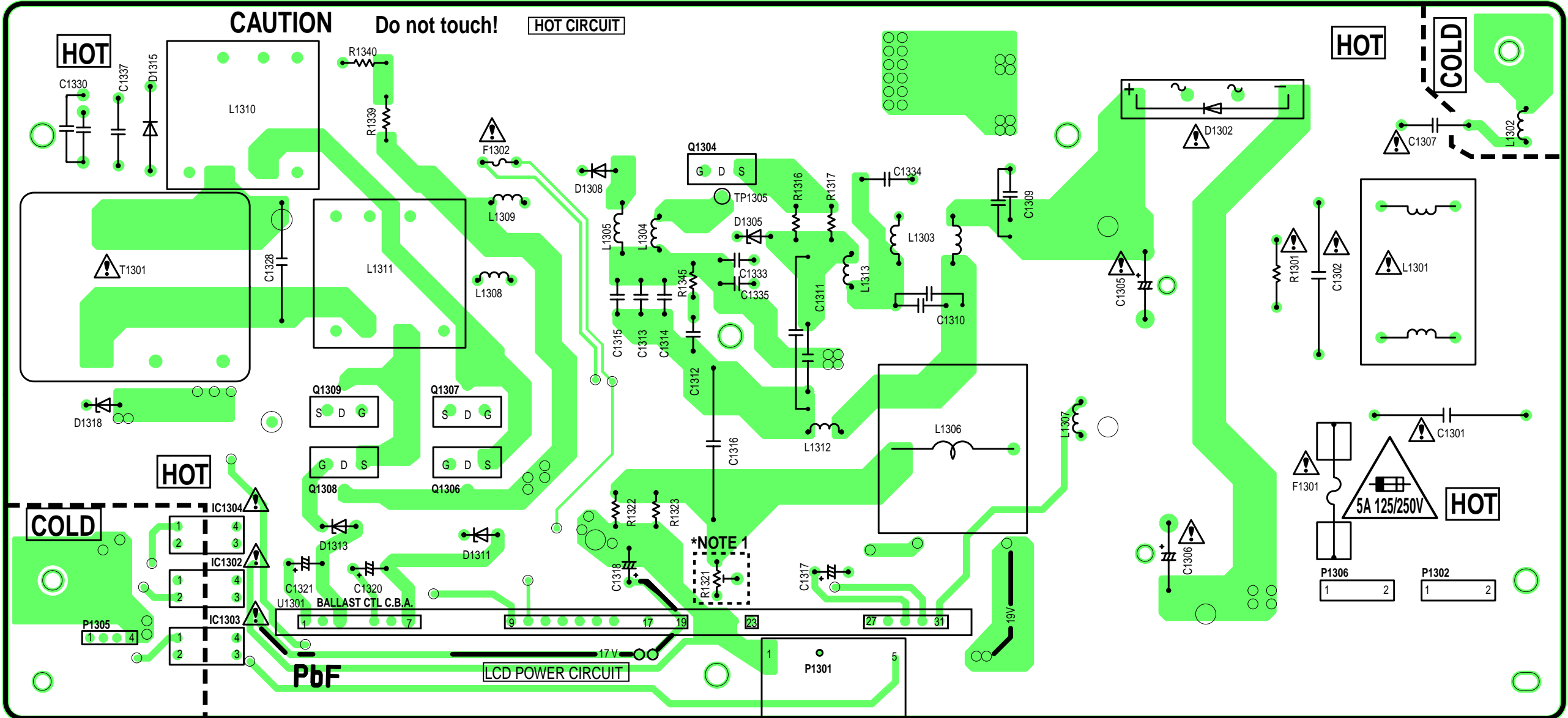
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 5A 125/250V FUSE.  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MEME  
TYPE 5A 125/250V

F1302 REPLACEMENT NOTE:  
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE NUMBER K5C117BC0003 (117 °C).  
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MEME  
TYPE NUMERO K5C117BC0003 (117 °C)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

\*NOTE 1:  
WHEN SERVICING BALLAST C.B.A., DO NOT TURN THE VARIABLE RESISTOR  
(R1321) ON THE BALLAST C.B.A.



HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.

LSJB3163

(DUAL PATTERNS)

BALLAST C.B.A. LSEB3163A

PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

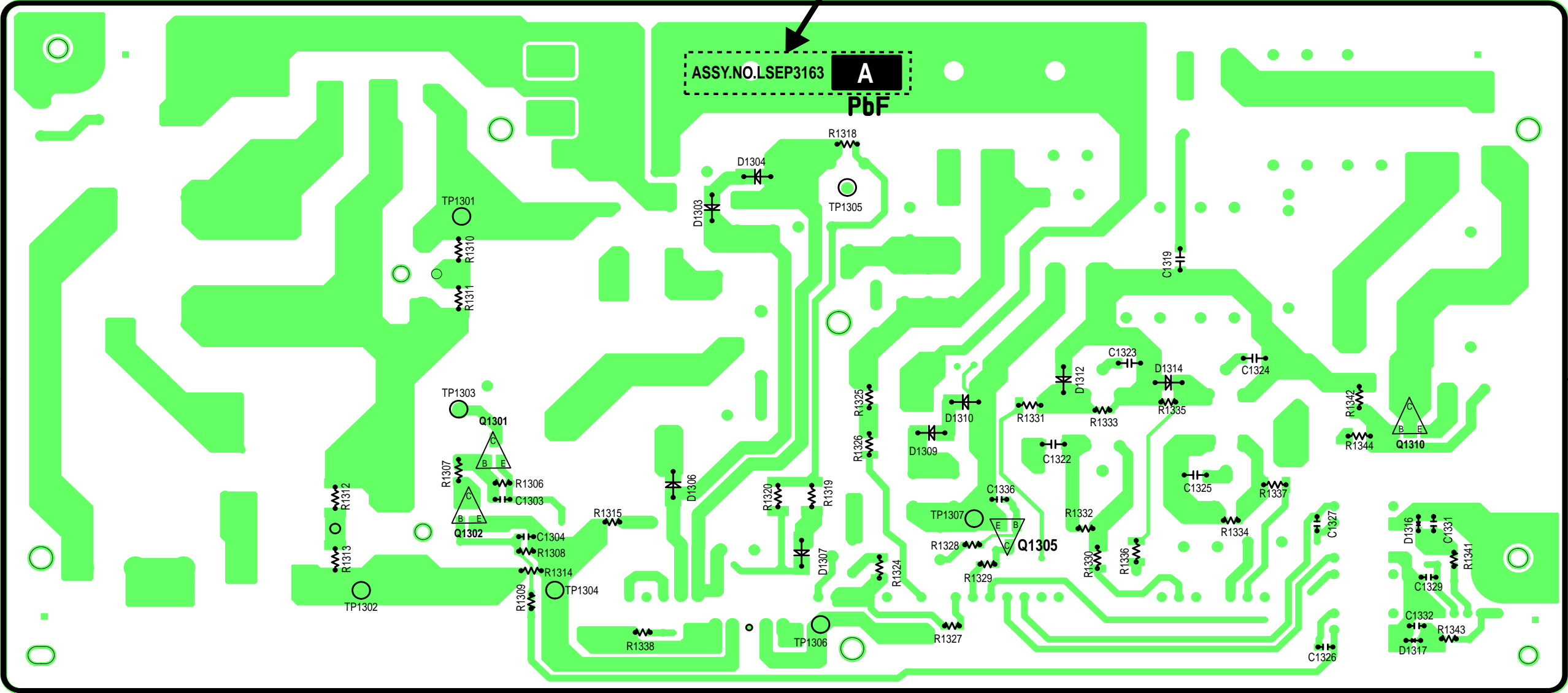


BALLAST C.B.A. LSEB3163A  
(FOIL SIDE)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

Part number printed on board.



LSJB3163

(DUAL PATTERNS)

13.5. LCD DRIVE C.B.A.

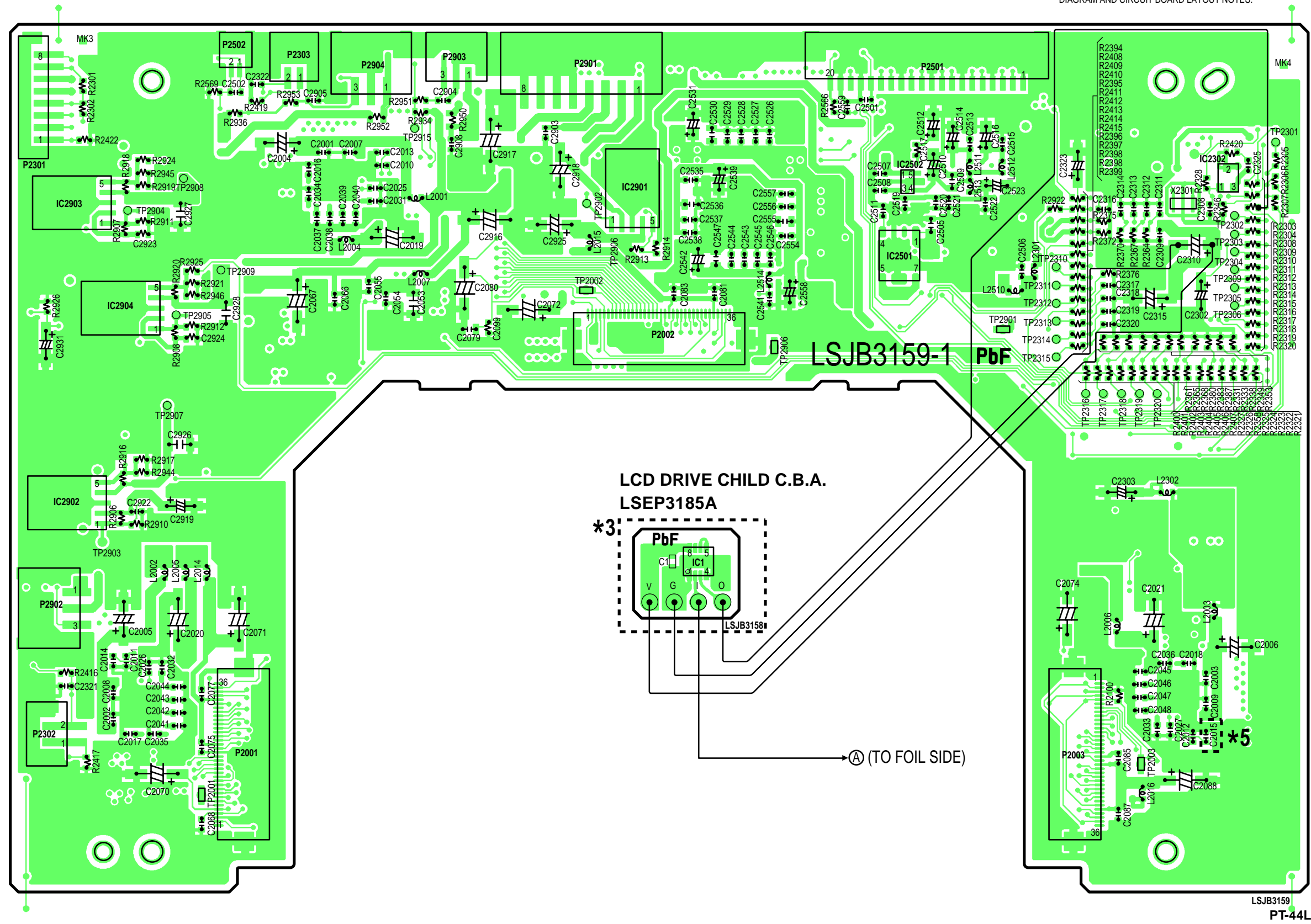
LCD DRIVE C.B.A. LSXA0625FL (SUFFIX (VERSION) NUMBER ①, ② )  
(COMPONENT SIDE)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE: MULTILAYER C.B.A.  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN  
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH  
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

\*3, \*5: REFER TO LCD DRIVE C.B.A. REPLACEMENT NOTE OF SCHEMATIC  
DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.





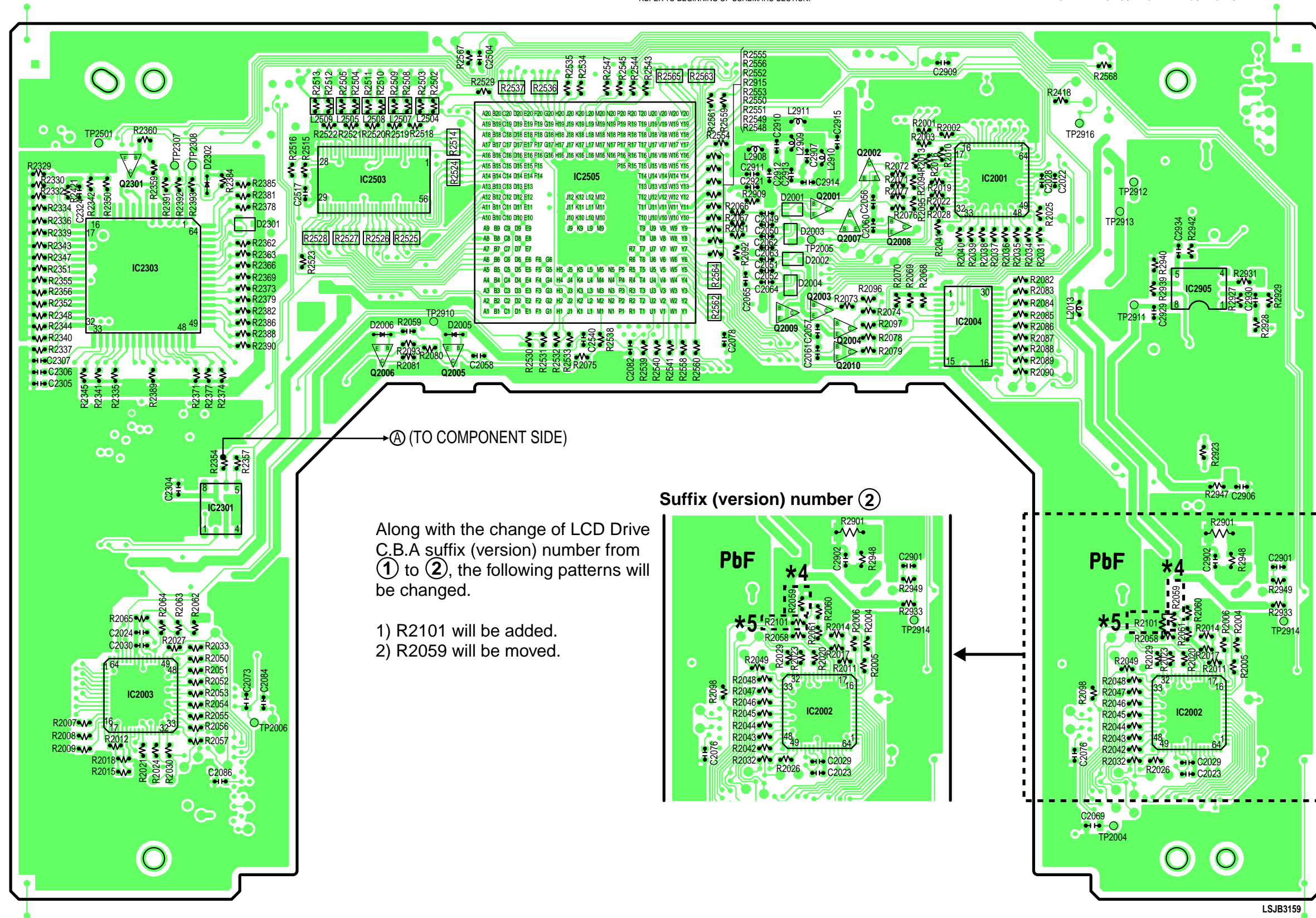
# LCD DRIVE C.B.A. LSXA0625FL (SUFFIX (VERSION) NUMBER ① , ② ) (FOIL SIDE)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE: MULTILAYER C.B.A.  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

\*4, \*5: REFER TO LCD DRIVE C.B.A. REPLACEMENT NOTE OF SCHEMATIC  
DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.



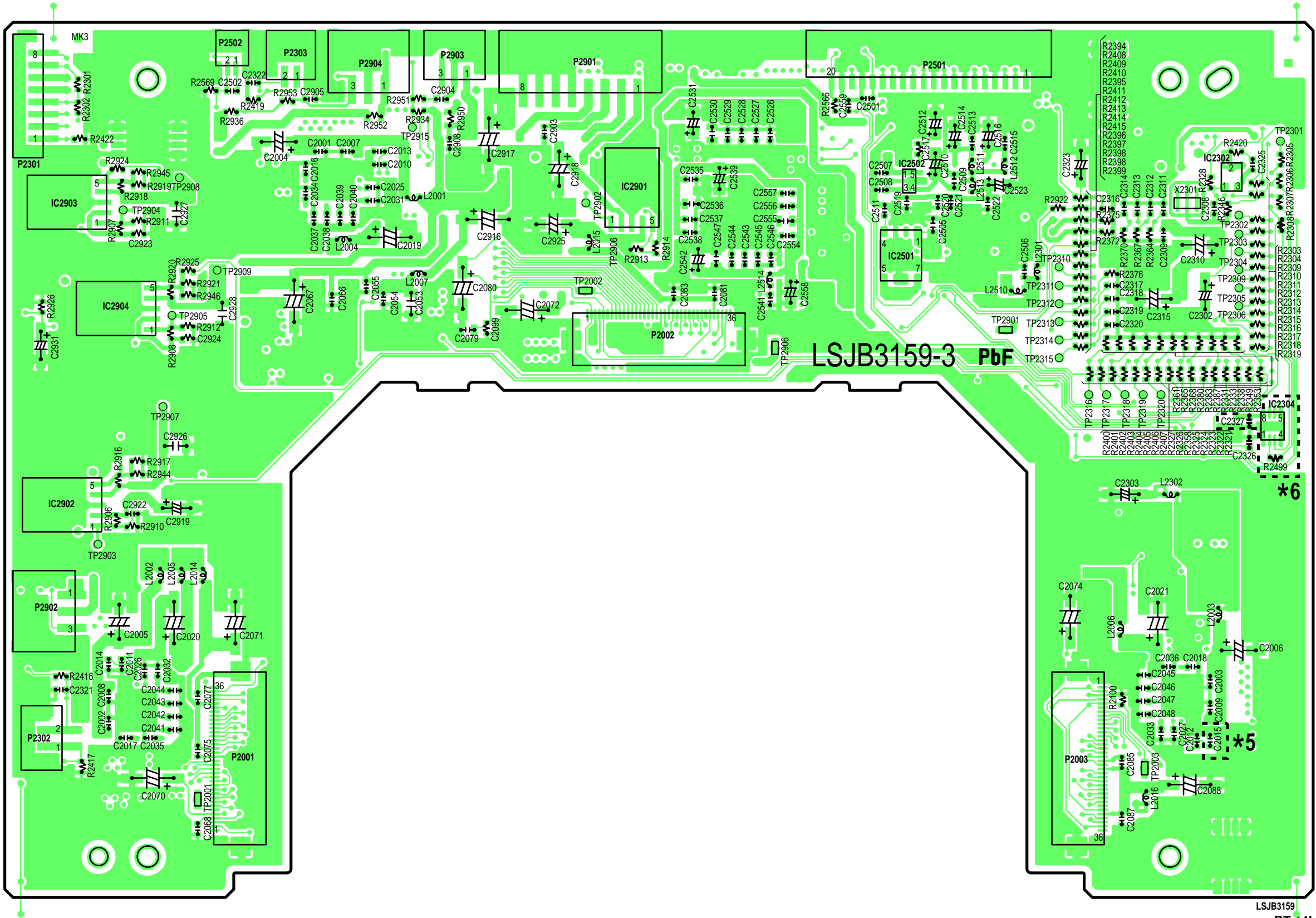
**LCD DRIVE C.B.A. LSXA0625FL (SUFFIX (VERSION) NUMBER③)  
(COMPONENT SIDE)**

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**NOTE: MULTILAYER C.B.A.**  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

**\*5, \*6: REFER TO LCD DRIVE C.B.A. REPLACEMENT NOTE OF SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.**



33159 LCD DRIVE C.B.A. LSXA0625FL  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



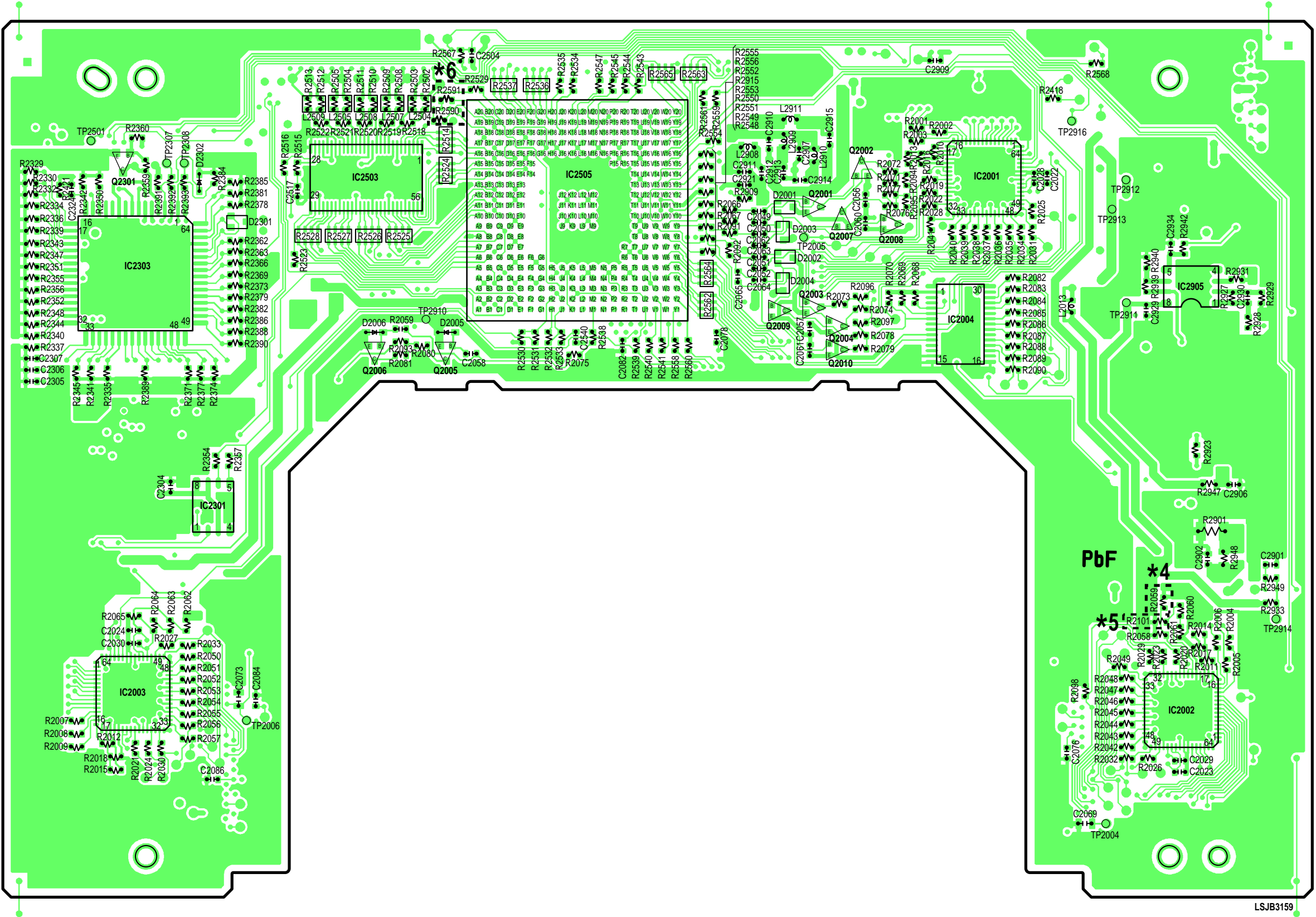
LCD DRIVE C.B.A. LSXA0625FL (SUFFIX (VERSION) NUMBER③)  
(FOIL SIDE)

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE: MULTILAYER C.B.A.  
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN  
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH  
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

\*4, \*5, \*6: REFER TO LCD DRIVE C.B.A. REPLACEMENT NOTE OF SCHEMATIC  
DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES.



**CARD C.B.A. LSEB3161A**

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

**(COMPONENT SIDE)**



**(FOIL SIDE)**



**CARD C.B.A. LSEB3161A**

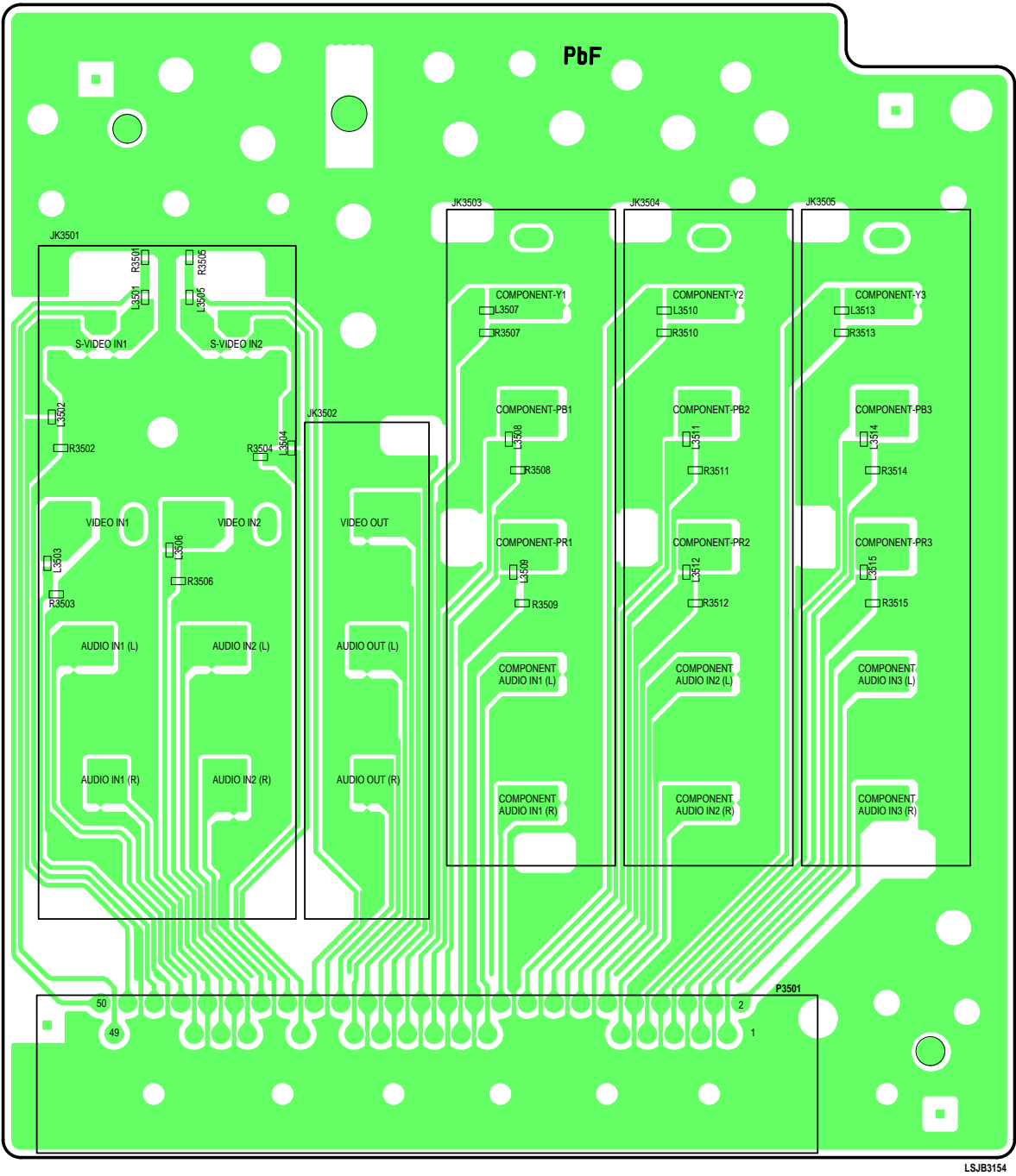
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K

13.7. REAR JACK C.B.A

REAR JACK C.B.A. LSEP3154A

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

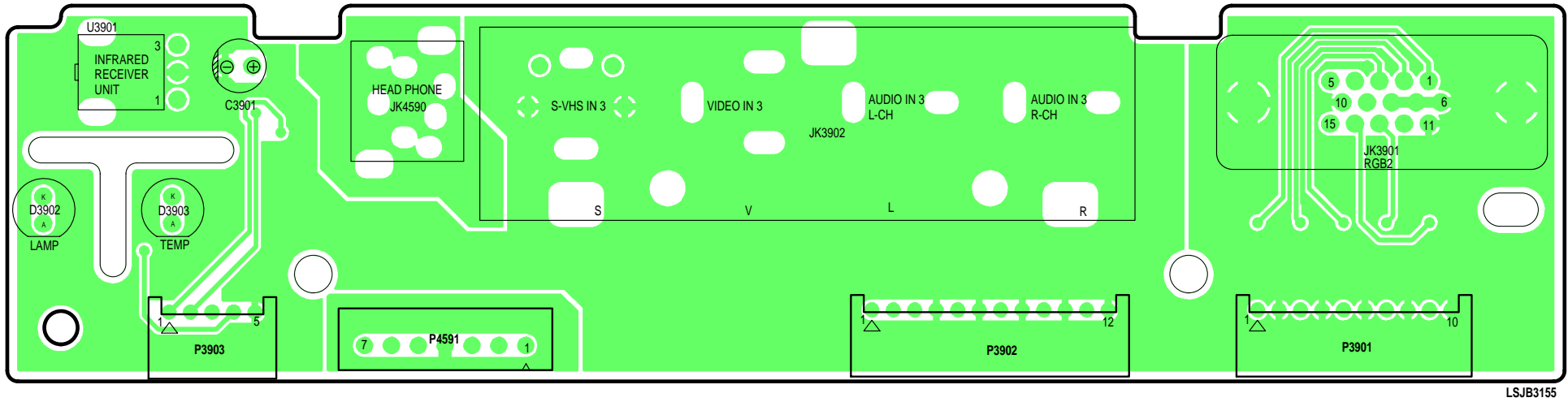
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.



13.8. FRONT JACK C.B.A.

FRONT JACK C.B.A. LSEP3155A

(COMPONENT SIDE)

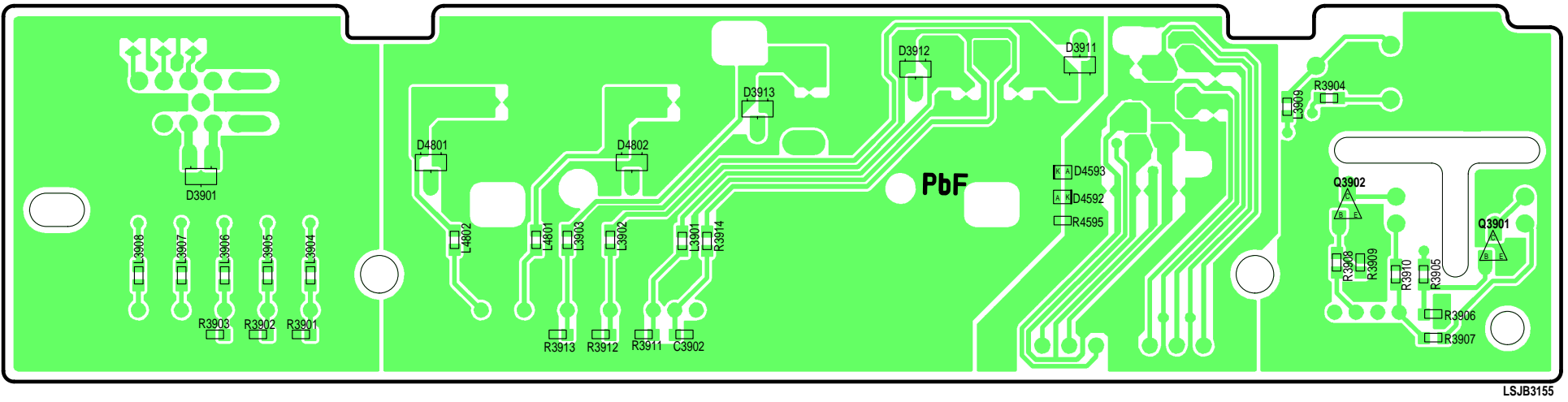


NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

(DUAL PATTERNS)

(FOIL SIDE)



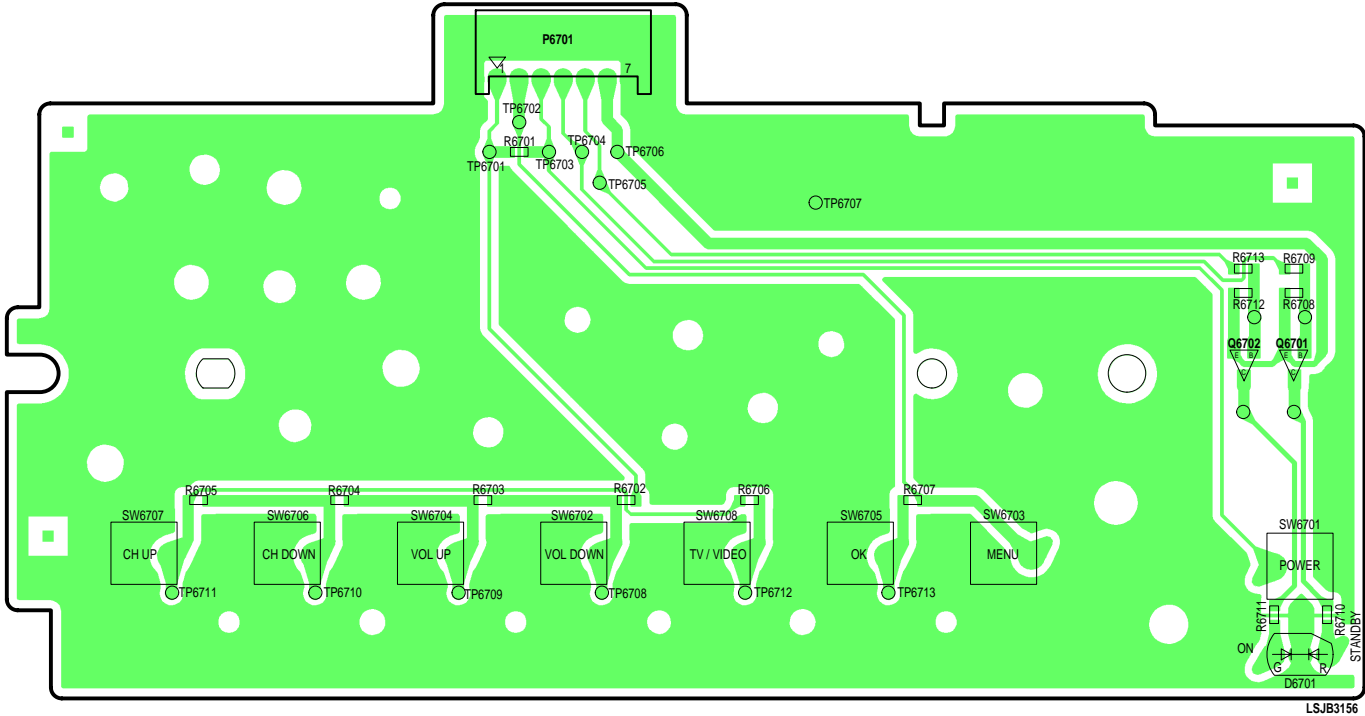
(DUAL PATTERNS)

13.9. OPERATION C.B.A. / THERMISTOR 1 C.B.A. / THERMISTOR 2 C.B.A. / COVER SWITCH C.B.A.

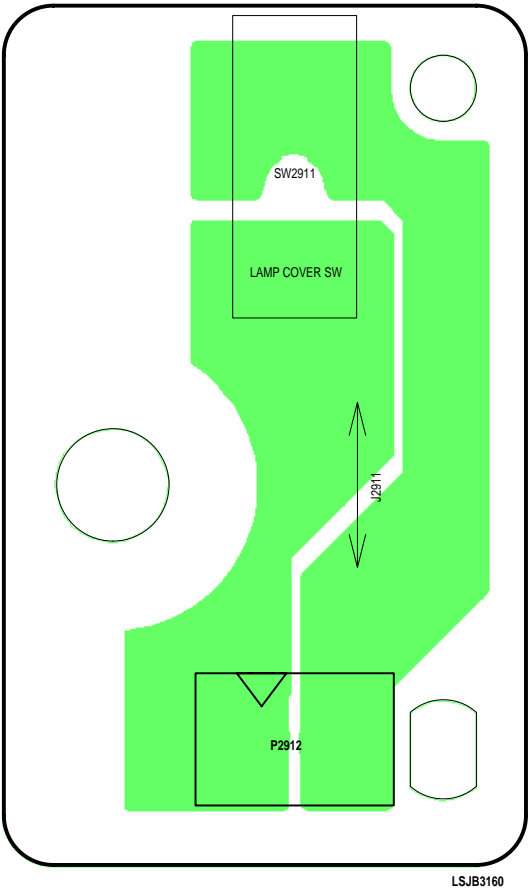
NOTE:  
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,  
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:  
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.  
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

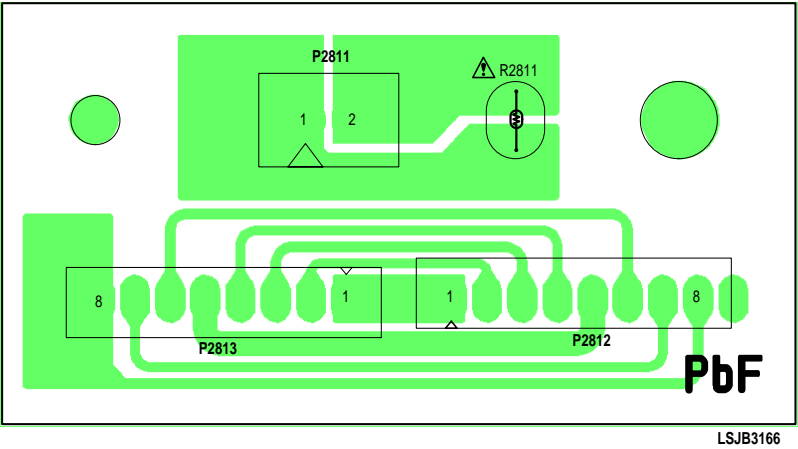
OPERATION C.B.A. LSEP3156A



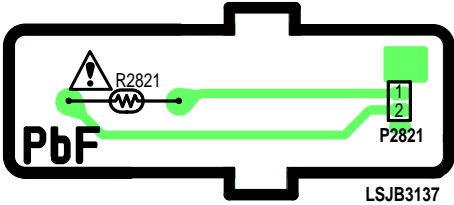
COVER SWITCH C.B.A. LSEP3160A




THERMISTOR 1 C.B.A. LSEP3166A



THERMISTOR 2 C.B.A. LSEB3137A



IMPORTANT SAFETY NOTICE:  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS,  
USE ONLY THE SPECIFIED PARTS.

OPERATION C.B.A. LSEP3156A  
THERMISTOR 1 C.B.A. LSEP3166A  
THERMISTOR 2 C.B.A. LSEB3137A  
COVER SWITCH C.B.A. LSEP3160A  
PT-44LCX65-K/PT-52LCX65-K/PT-61LCX65-K



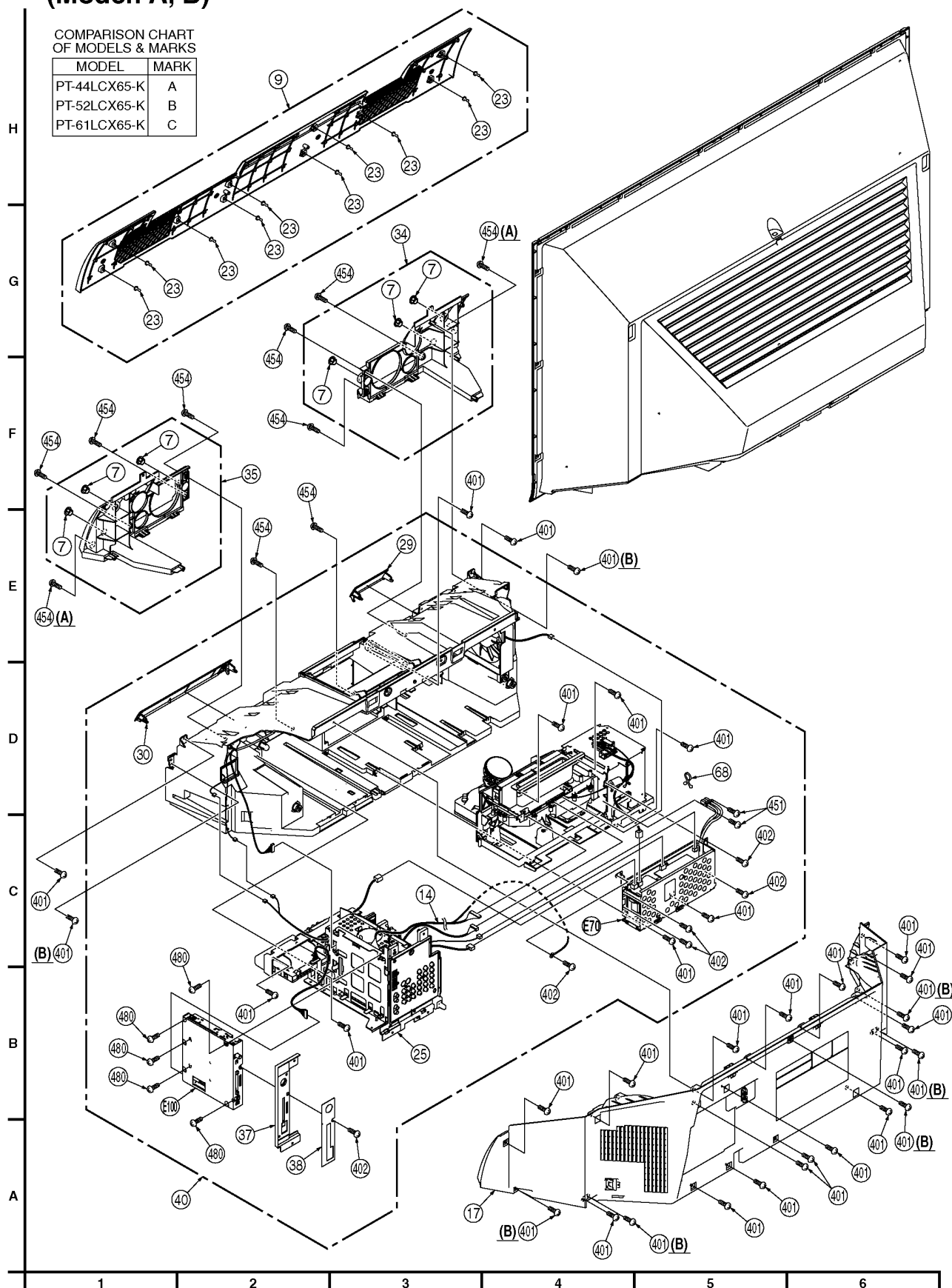


# 14 EXPLODED VIEWS (CABINET SECTION)

## 14.1. MAIN PARTS SECTION

### 1 44/52 INCH MAIN PARTS SECTION (Model: A, B)

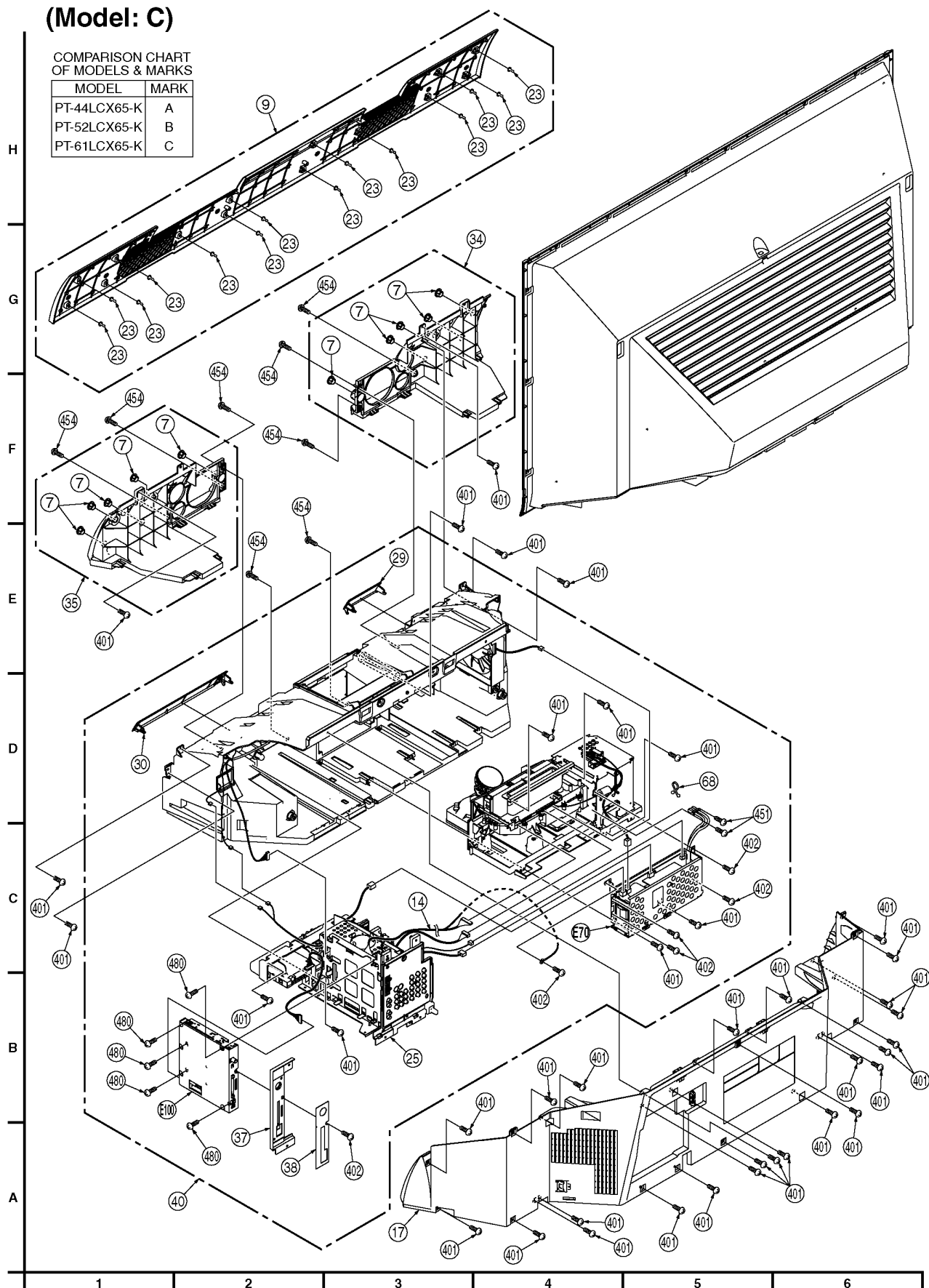
**Note:** Parts with no Ref. No. in "EXPLODED VIEW" are not supplied.  
And some Ref. No. will be skipped. Be sure to make your  
orders of replacement parts according to the parts list.



# **1 61 INCH MAIN PARTS SECTION** **(Model: C)**

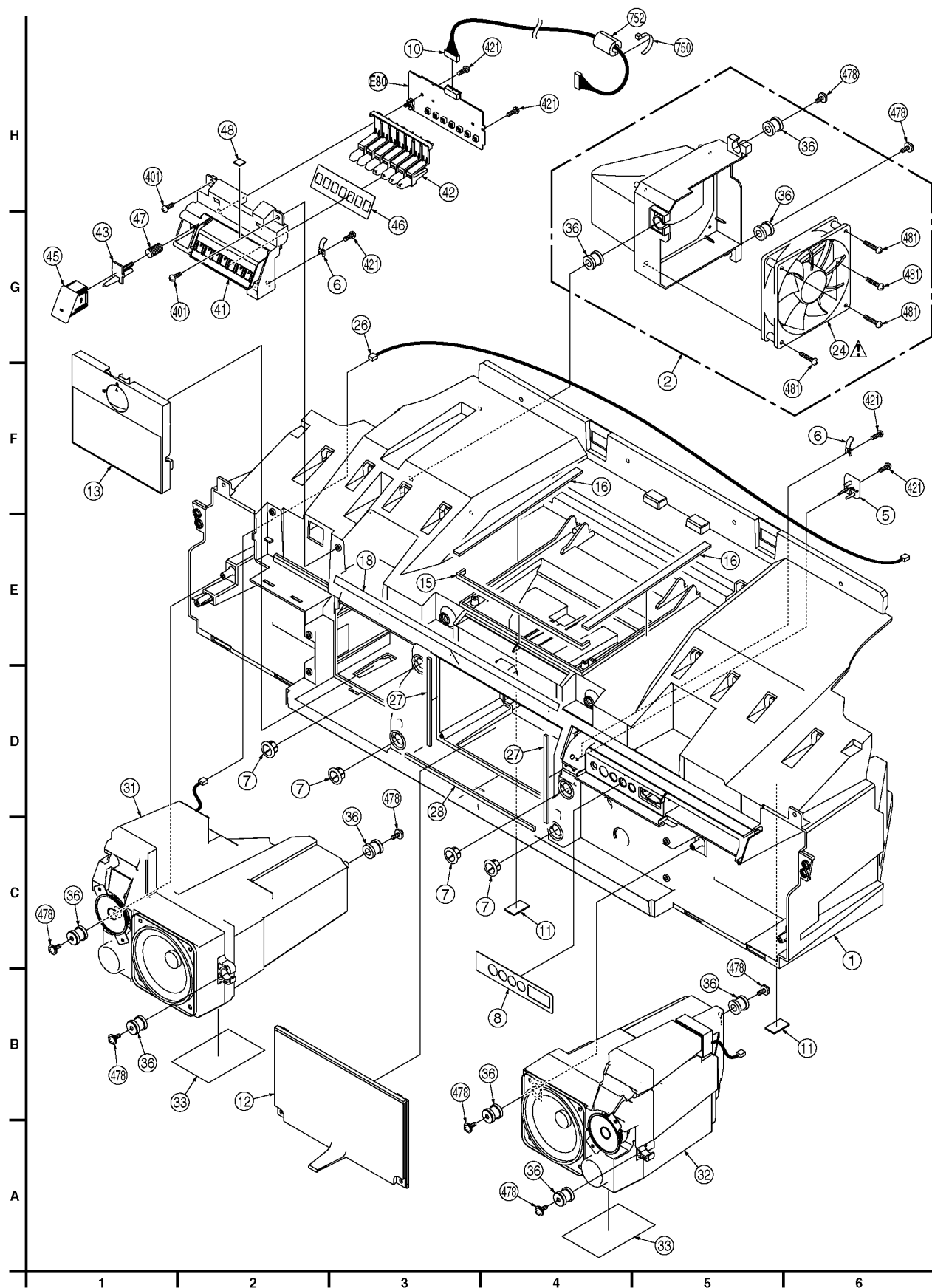
COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C



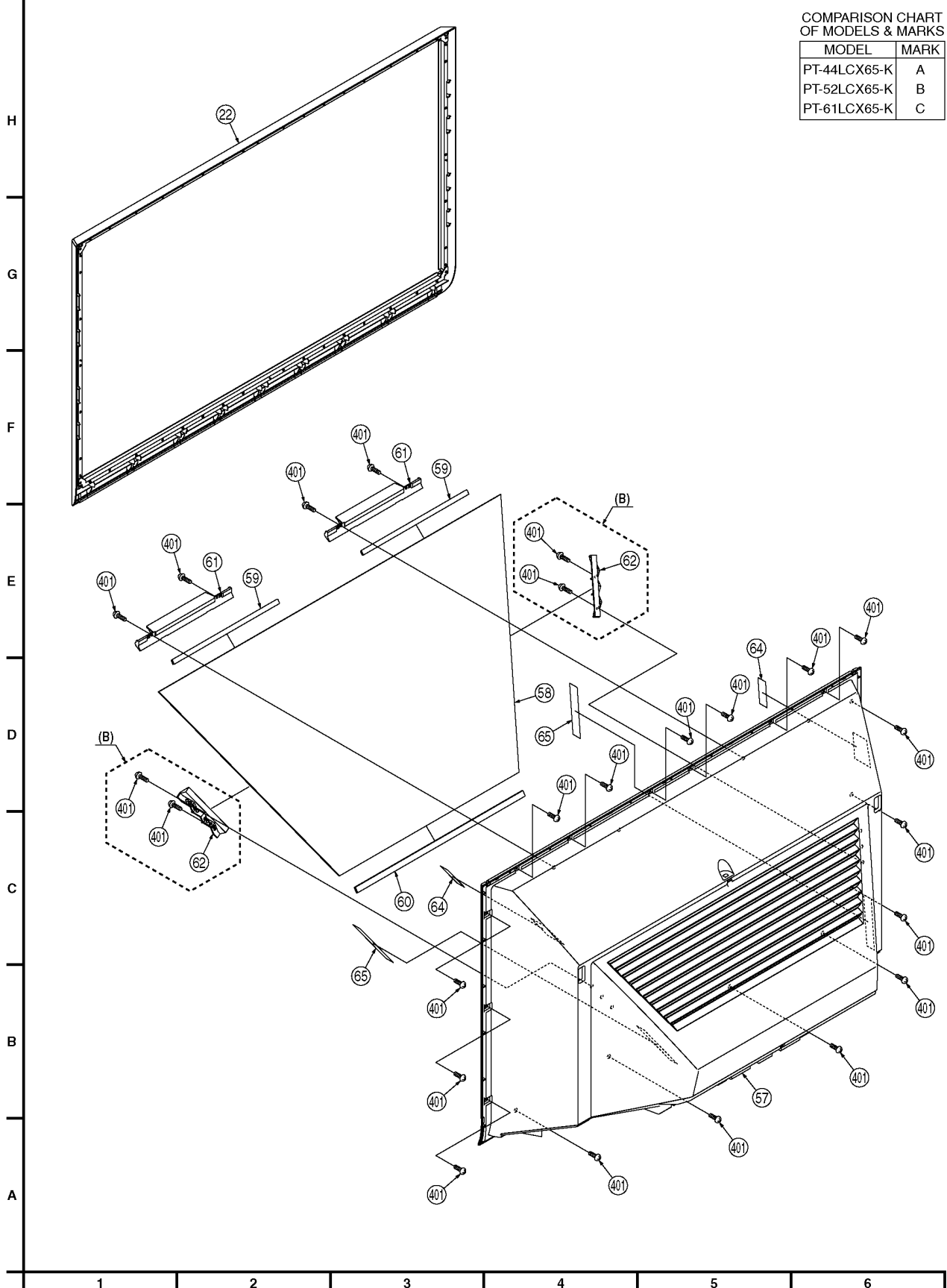
## 14.2. FRONT AND BASE SECTION

### 2 FRONT AND BASE SECTION



# 14.3. DISPLAY SECTION

## ③ 44/52 INCH DISPLAY SECTION (Model: A, B)



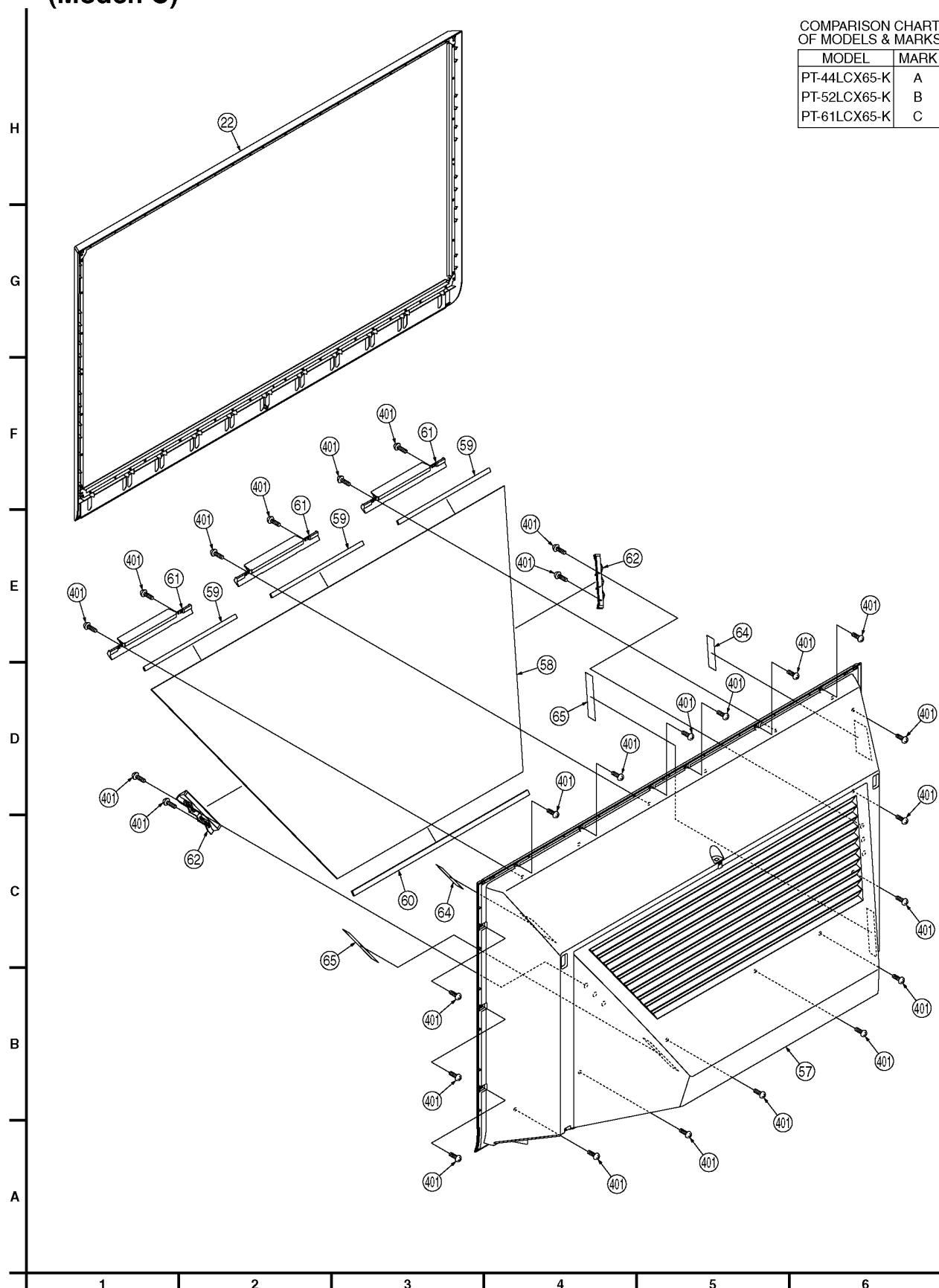
COMPARISON CHART  
OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

### ③ 61 INCH DISPLAY SECTION (Model: C)

COMPARISON CHART  
OF MODELS & MARKS

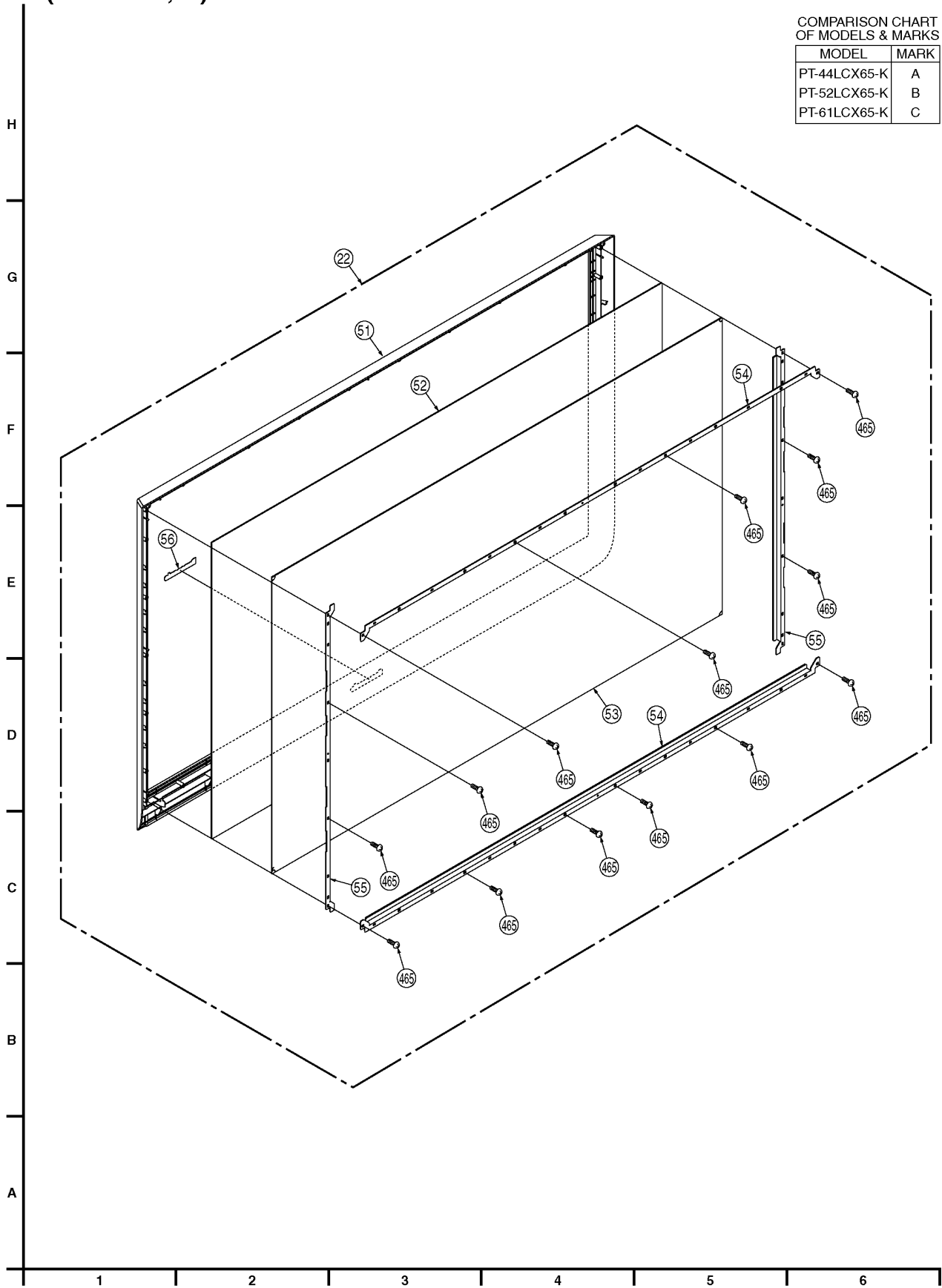
MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C



# 14.4. SCREEN SECTION

## ④ 44/52 INCH SCREEN SECTION (Model: A, B)

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

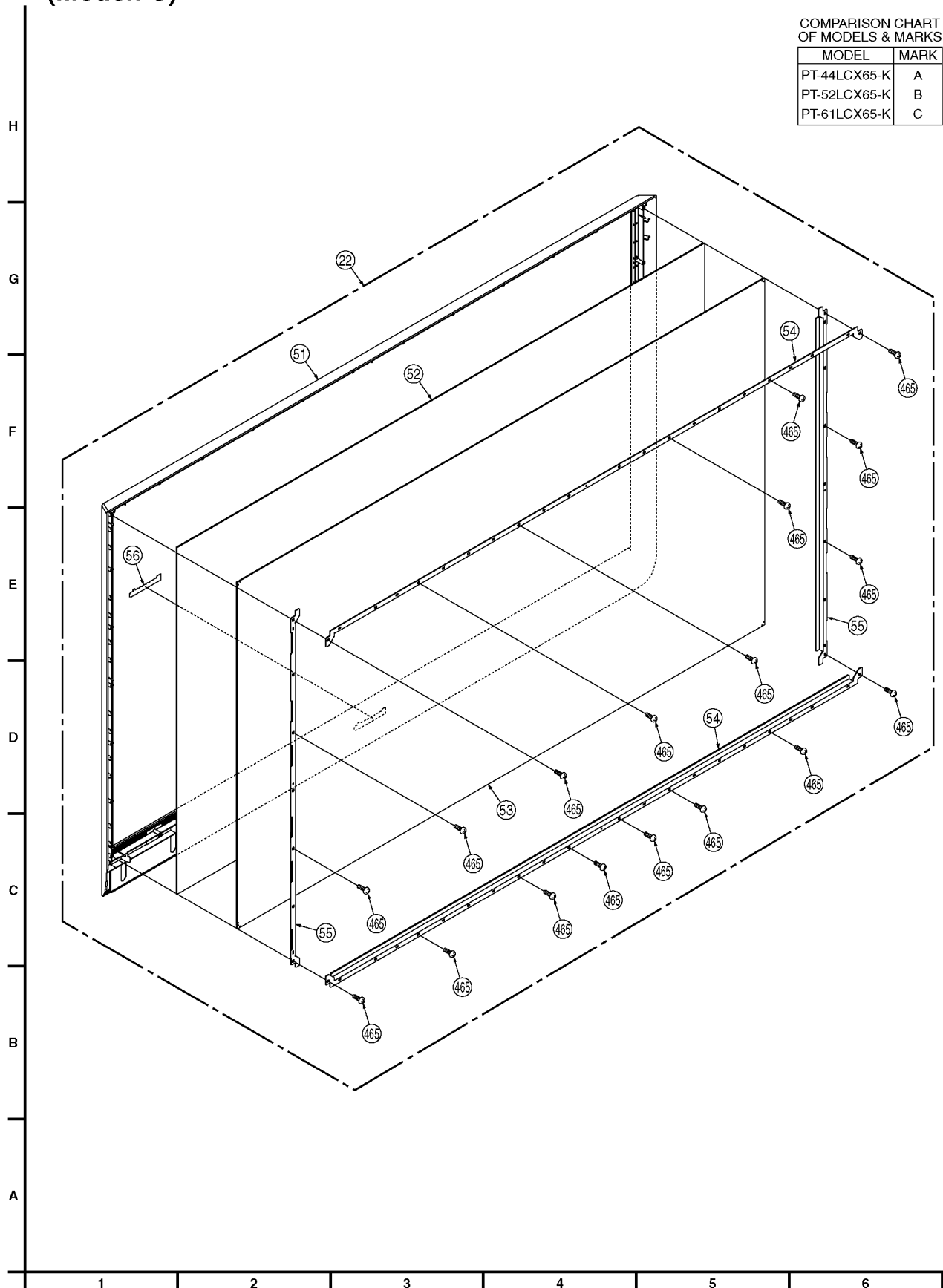




# **4 61 INCH SCREEN SECTION** (Model: C)

COMPARISON CHART  
OF MODELS & MARKS


MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

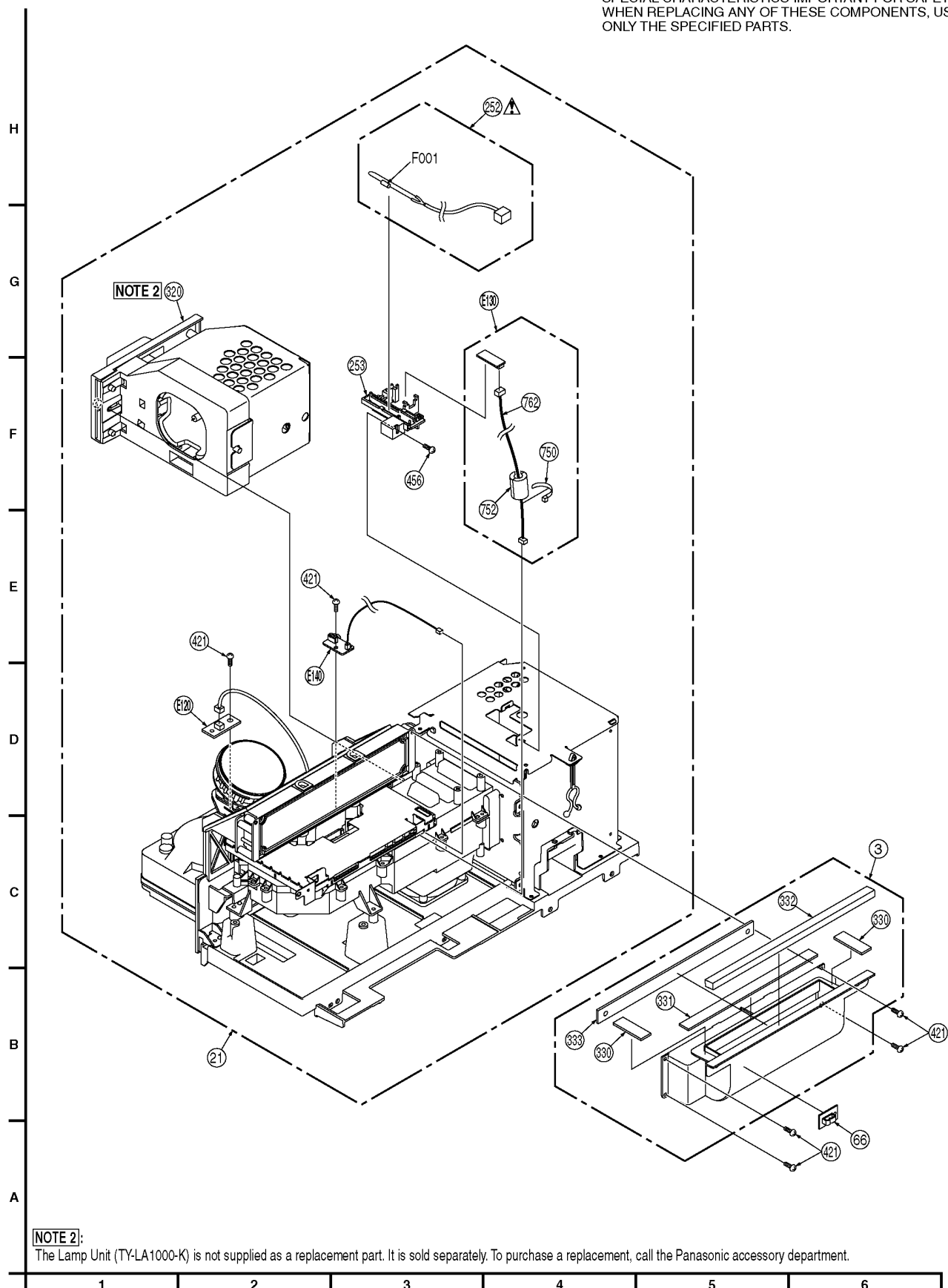


# 14.5. PROJECTION SECTION

## 5 PROJECTION SECTION

### IMPORTANT SAFETY NOTICE


COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

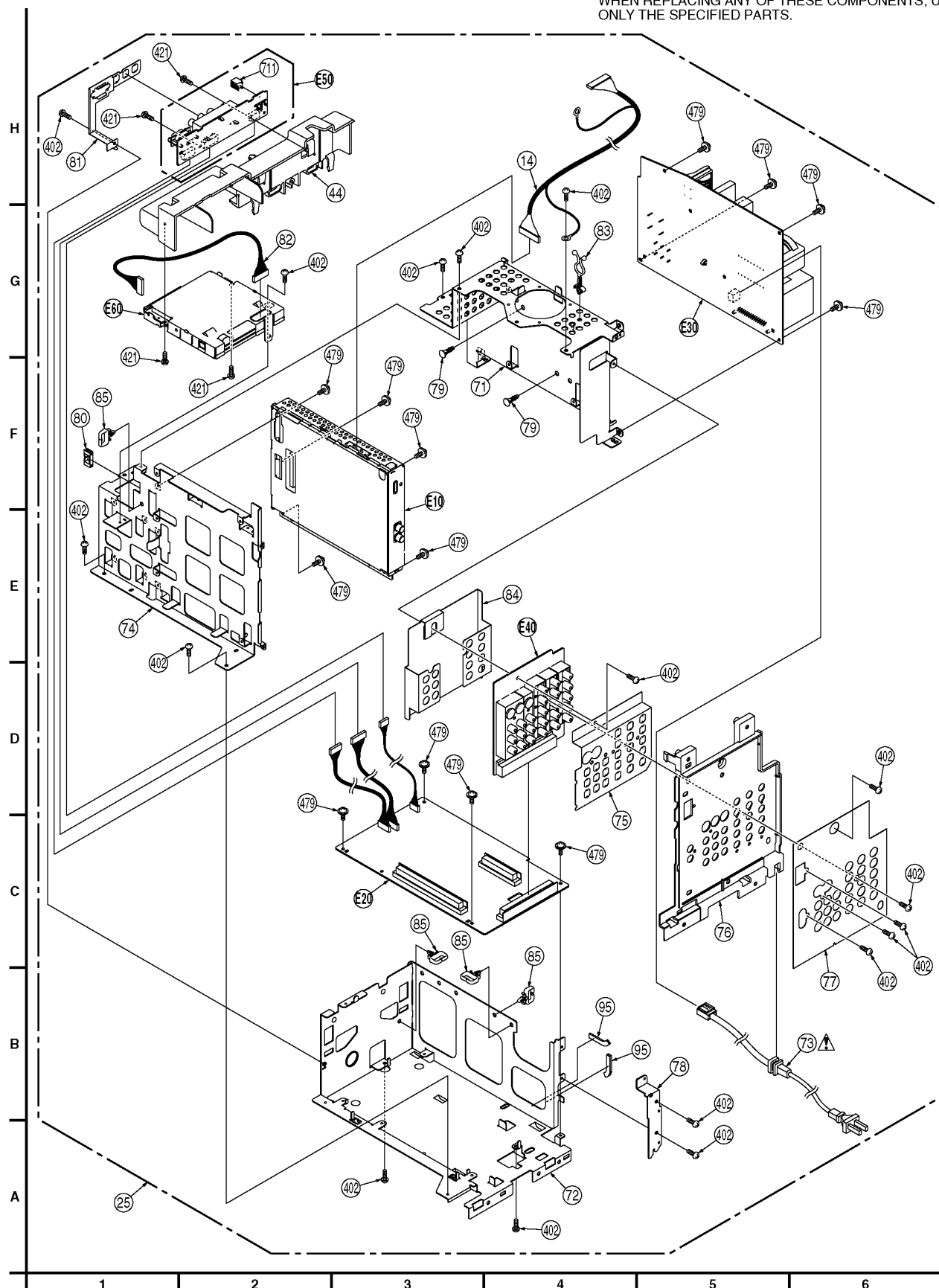


## 14.6. TV UNIT SECTION (1)


### 6 TV UNIT SECTION (1)

#### IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



## 7 TV UNIT SECTION (2)


**IMPORTANT SAFETY NOTICE**  
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

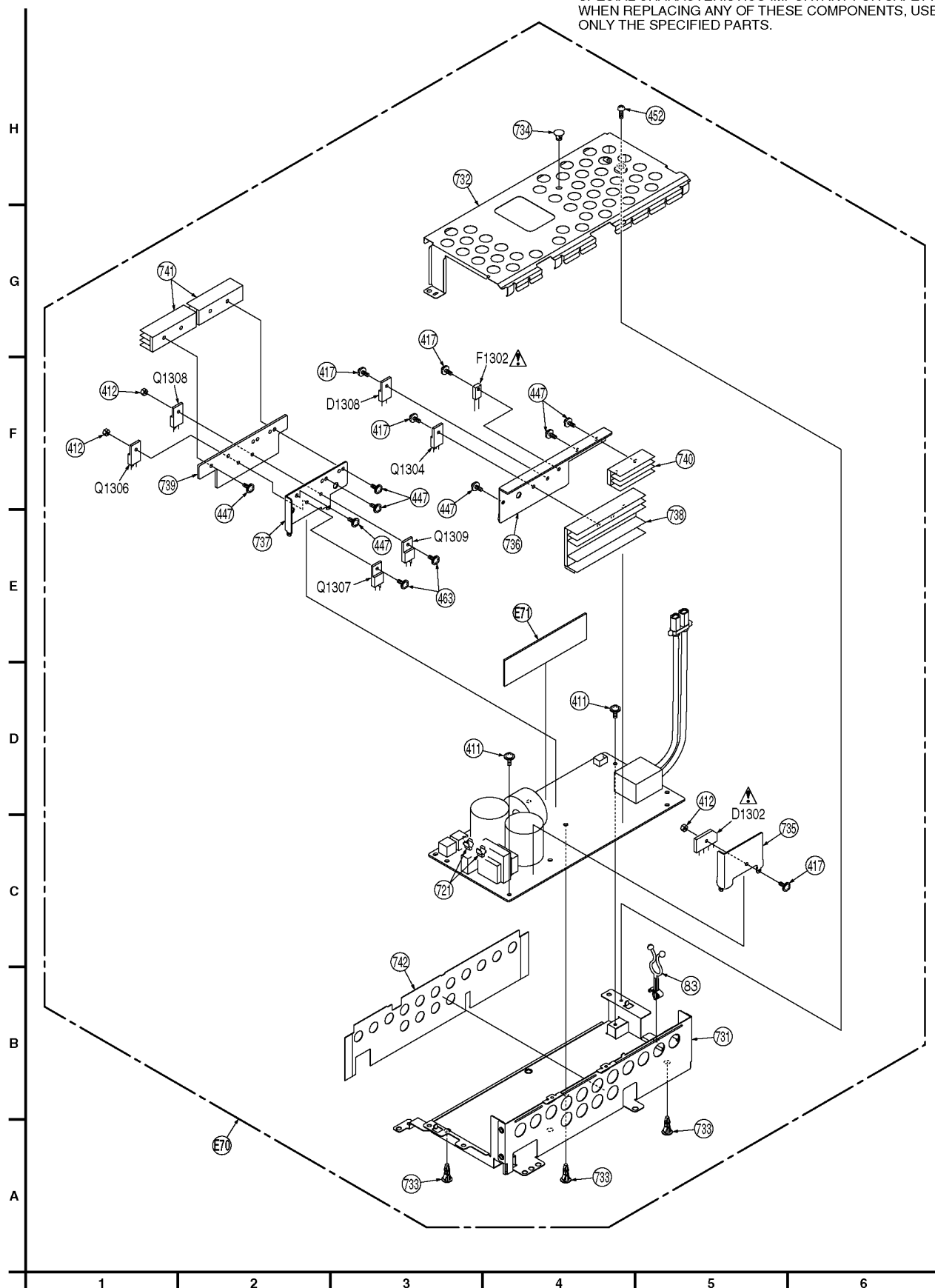


# 14.8. BALLAST C.B.A. SECTION

## 8 BALLAST C.B.A. SECTION

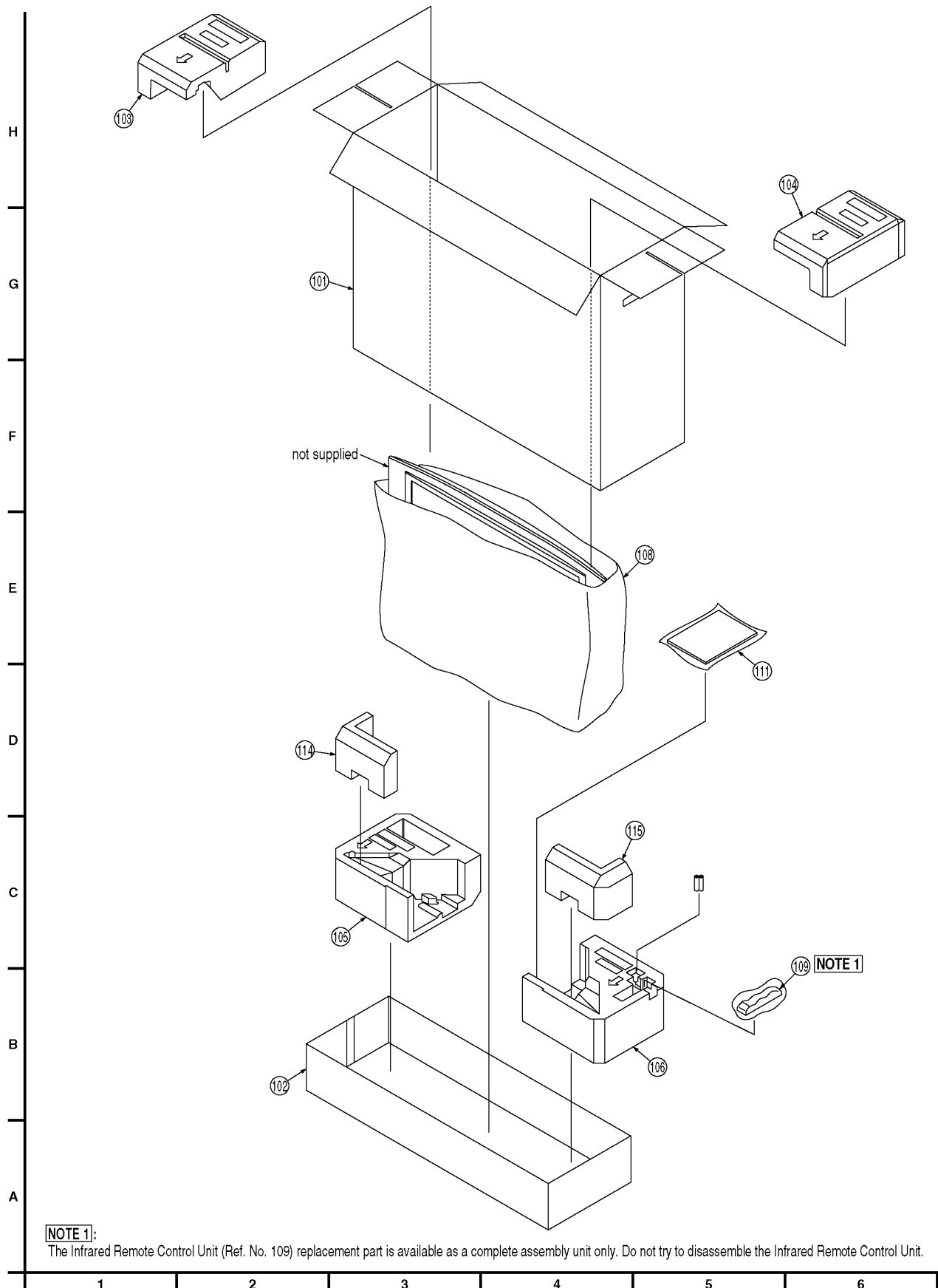
### IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



## 14.9. PACKING PARTS AND ACCESSORIES SECTION

### 9 PACKING PARTS AND ACCESSORIES SECTION



# 15 REPLACEMENT PARTS LIST (CABINET SECTION)

**BEFORE REPLACING PARTS, READ THE FOLLOWING:**

replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

## 15.1. REPLACEMENT NOTES

### 15.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**

Components identified by the sign  $\triangle$  have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. **SPECIAL NOTE**

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. Definition of Parts supplier:
  - a. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
  - b. Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.
  - c. Parts without mark in the Remarks column are supplied from PSECI.
7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.
8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

### 15.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.
2. Abbreviation
 

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
3. After replacing the Projection Unit (Ref. No. 21) or the Base Body Unit (Ref. No. 40), be sure to perform "ADJUSTMENT of the Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION"; in ADJUSTMENT PROCEDURES 1.
4. The Infrared Remote Control Unit (Ref. No. 109)

### 15.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

All resistors are in  $\Omega$ , K = 1,000  $\Omega$ , M = 1,000 k $\Omega$ .

2. Abbreviation

RTL:	Retention Time Limited
	This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
NR:	Non Repairable Board Ass'y
MGF CHIP:	Metal Glaze Film Chip
C CHIP:	Ceramic Chip
COMPLX CMP:	Complex Component
W FLMPRF:	Wirewound Flameproof
C.B.A.:	Circuit Board Assembly
P.C.B.:	Printed Circuit Board
E.S.D.:	Electrostatically Sensitive Devices

3. When replacing 0  $\Omega$  resistor, a wire can be substituted for it.

4. Parts with mark "CSP" in the Remarks column are CSP (Chip Size Package) IC.

## WARNING

**In case of failure of Digital Tuner, it is required by law to return the defective board to PANASONIC CANADA INC. 5770 AMBLER DRIVE MISSISSAUGA ONTARIO L4W-2T3.**

### COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C



## 15.2. MECHANICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
2. Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.
3. Parts without mark in the Remarks column are supplied from PSECI.

### COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

### MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSKU0029	BASE BODY	2
2	LSXY0811	EXHAUST FAN UNIT	2
3	LSXA0683	TOP DUCT 3 UNIT	5 PASC-NPC
5	LSGL0427	INFRARED PIECE	2
6	LSMC0124	PANEL SPRING	2
7	LSKC0008	LATCH	1,2
8	LSGH0055	FRONT JACK SHEET	2
9	LSYF0557	FRONT COVER UNIT ( A )	1 PASC-NPC
9	LSYF0553	FRONT COVER UNIT ( B )	1 PASC-NPC
9	LSYF0558	FRONT COVER UNIT ( C )	1 PASC-NPC
10	LSJA0543	CONNECTOR CABLE W/PLUG	2
11	LSKA0030	RUBBER FOOT	2
12	LSYF0563	OPTICAL COVER UNIT	2
13	LSYK1564	LAMP COVER UNIT	2
14	K1PB20A00021	20-PIN CABLE	1,6
15	LSMG0161	SPACER	2
16	LSMG0162	SPACER	2
17	LSGV0100	REAR COVER ( A )	1 PASC-NPC
17	LSYF0569	REAR COVER UNIT ( B )	1 PASC-NPC
17	LSYF0571	REAR COVER UNIT ( C )	1 PASC-NPC
18	LSMF0408	SHEET	2
21	LSXA0625-HB	PROJECTION UNIT ( A )	5 RTL PSEC
21	LSXA0626-HB	PROJECTION UNIT ( B )	5 RTL PSEC
21	LSXA0699-HB	PROJECTION UNIT ( C )	5 RTL PSEC
22	LSYK1569	SCREEN UNIT ( A )	3,4 PASC-NPC
22	LSYK1565	SCREEN UNIT ( B )	3,4 PASC-NPC
22	LSYK1570	SCREEN UNIT ( C )	3,4 PASC-NPC
23	TMM14414	STRIKE	1 PASC-NPC
24	L6FANEHH0003	FAN3	2 $\Delta$
25	LSXY0813	TV UNIT	1,6 RTL
26	LSJA0545	CONNECTOR CABLE W/PLUG	2
27	LSMG0154	SPACER	2

Ref. No.	Part No.	Part Name & Description	Remarks
28	LSMG0155	SPACER	2
29	LSKF0620	BUTTON DOOR	1 PASC-NPC
30	LSYY0318	FRONT JACK DOOR UNIT	1 PASC-NPC
31	EAB10117AL	SPEAKER ASSEMBLY L	2
32	EAB10117AR	SPEAKER ASSEMBLY R	2
33	LSMF0407	RUBBER SPACER	2
34	LSYF0559	SIDE COVER L UNIT ( A )	1 PASC-NPC
34	LSYF0554	SIDE COVER L UNIT ( B )	1 PASC-NPC
34	LSYF0560	SIDE COVER L UNIT ( C )	1 PASC-NPC
35	LSYF0561	SIDE COVER R UNIT ( A )	1 PASC-NPC
35	LSYF0555	SIDE COVER R UNIT ( B )	1 PASC-NPC
35	LSYF0562	SIDE COVER R UNIT ( C )	1 PASC-NPC
36	TMMJ058	SPEAKER RUBBER	2
37	LSJH0082	DTV JACK HOLDER	1 PASC-NPC
38	LSGH0058	DTV JACK SHEET	1 PASC-NPC
40	LSVE0008	BASE BODY UNIT ( A )	1 RTL PASC-NPC
40	LSVE0009	BASE BODY UNIT ( B )	1 RTL PASC-NPC
40	LSVE0010	BASE BODY UNIT ( C )	1 RTL PASC-NPC
41	LSJF0013	FRONT BUTTON HOLDER	2
42	LSGU0664	OPERATION BUTTON	2
43	LSGL0429	POWER LED PIECE	2
44	LSJH0080	FRONT JACK HOLDER	6
45	LSGU0674	POWER BUTTON	2
46	LSGH0056	OPERATION SHEET	2
47	LSMB0314	POWER BUTTON SPRING	2
48	LSMF0419	SPACER	2
51	LSGY0259	ESCUTCHEON ( A )	4 PASC-NPC
51	LSGY0260	ESCUTCHEON ( B )	4 PASC-NPC
51	LSGY0261	ESCUTCHEON ( C )	4 PASC-NPC
52	LSGP0470	LENTICULAR SCREEN ( A )	4 PASC-NPC
52	LSGP0471	LENTICULAR SCREEN ( B )	4 PASC-NPC
52	LSGP0472	LENTICULAR SCREEN ( C )	4 PASC-NPC
53	LSGP0467	FRESNEL LENS ( A )	4 PASC-NPC
53	LSGP0468	FRESNEL LENS ( B )	4 PASC-NPC
53	LSGP0469	FRESNEL LENS ( C )	4 PASC-NPC
54	LSXA0662	SCREEN ANGLE H UNIT ( A )	4 PASC-NPC
54	LSXA0663	SCREEN ANGLE H UNIT ( B )	4 PASC-NPC
54	LSXA0664	SCREEN ANGLE H UNIT ( C )	4 PASC-NPC
55	LSXA0659	SCREEN ANGLE V UNIT ( A )	4 PASC-NPC
55	LSXA0660	SCREEN ANGLE V UNIT ( B )	4 PASC-NPC
55	LSXA0661	SCREEN ANGLE V UNIT ( C )	4 PASC-NPC
56	TBM0A3005	PANASONIC BADGE	4 PASC-NPC
57	LSGV0097	BACK COVER ( A )	3 PASC-NPC
57	LSGV0098	BACK COVER ( B )	3 PASC-NPC
57	LSGV0099	BACK COVER ( C )	3 PASC-NPC

Ref. No.	Part No.	Part Name & Description	Remarks
58	LSDL0288	MIRROR ( A )	3 PASC-NPC
58	LSDL0289	MIRROR ( B )	3 PASC-NPC
58	LSDL0290	MIRROR ( C )	3 PASC-NPC
59	LSMF0393	SPACER	3 PASC-NPC
60	LSMF0390	SPACER ( A )	3 PASC-NPC
60	LSMF0445	SPACER ( B )	3 PASC-NPC
60	LSMF0446	SPACER ( C )	3 PASC-NPC
61	LSGQ0145	MIRROR HOLDER H	3 PASC-NPC
62	LSYF0556	MIRROR HOLDER V UNIT ( B,C )	3 PASC-NPC
64	LSMF0417	SPACER	3 PASC-NPC
65	LSMF0418	SPACER	3 PASC-NPC
66	LSGP0372	CLAMPER	5 PASC-NPC
68	TMM6463-1	CLAMPER	1 PASC-NPC
71	LSMA0807	P.C.B. POWER ANGLE	6
72	LSMA0808	P.C.B. BASE ANGLE	6
73	K2CB2CZ00004	AC CORD W/PLUG	6 △
74	LSMA0809	P.C.B. MAIN ANGLE	6
75	LSSC0773	REAR JACK EARTH PLATE,STEEL	6
76	LSJH0081	REAR JACK HOLDER	6
77	LSGH0057	REAR JACK SHEET	6
78	LSSC0779	EARTH PLATE A	6
79	KGLS-12RTV0	RIVET	6
80	TMME075	EDGE SADDLE	6
81	LSSC0774	FRONT JACK EARTH PLATE,STEEL	6
82	LSJA0544	CONNECTOR CABLE W/PLUG	6
83	TMM5439-1	CLAMPER	6,7,8
84	LSKW0237	REAR JACK BARRIER	6
85	TMM6425-1	CLAMPER	6
95	VMFS0116	SHEET	6
101	LSPG1965	CARTON BOX ( A )	9 PASC-NPC
101	LSPG1963	CARTON BOX ( B )	9 PASC-NPC
101	LSPG1967	CARTON BOX ( C )	9 PASC-NPC
102	LSPG1966	CARTON BOX BOTTOM ( A )	9 PASC-NPC
102	LSPG1964	CARTON BOX BOTTOM ( B )	9 PASC-NPC
102	LSPG1968	CARTON BOX BOTTOM ( C )	9 PASC-NPC
103	LSPN0577	CUSHION TOP-LEFT,STYROFOAM ( A )	9 PASC-NPC
103	LSPN0573	CUSHION TOP-LEFT,STYROFOAM ( B )	9 PASC-NPC
103	LSPN0581	CUSHION TOP-LEFT,STYROFOAM ( C )	9 PASC-NPC
104	LSPN0578	CUSHION TOP-RIGHT,STYROFOAM ( A )	9 PASC-NPC
104	LSPN0574	CUSHION TOP-RIGHT,STYROFOAM ( B )	9 PASC-NPC
104	LSPN0582	CUSHION TOP-RIGHT,STYROFOAM ( C )	9 PASC-NPC
105	LSPN0579	CUSHION BOTTOM-LEFT,STYROFOAM ( A )	9 PASC-NPC
105	LSPN0575	CUSHION BOTTOM-LEFT,STYROFOAM ( B )	9 PASC-NPC
105	LSPN0583	CUSHION BOTTOM-LEFT,STYROFOAM ( C )	9 PASC-NPC
106	LSPN0580	CUSHION BOTTOM-RIGHT,STYROFOAM ( A )	9 PASC-NPC
106	LSPN0576	CUSHION BOTTOM-RIGHT,STYROFOAM ( B )	9 PASC-NPC
106	LSPN0584	CUSHION BOTTOM-RIGHT,STYROFOAM ( C )	9 PASC-NPC

Ref. No.	Part No.	Part Name & Description	Remarks
108	LSPF0161	BAG,POLYETHYLENE ( A )	9 PASC-NPC
108	LSPF0111	BAG,POLYETHYLENE ( B,C )	9 PASC-NPC
109	EUR7627Z70	INFRARED REMOTE CONTROL UNIT	9 PASC-NPC
111	LSQF0961	FAN BAG	9 PASC-NPC
114	LSPN0588	CUSHION FRONT-LEFT,STYROFOAM	9 PASC-NPC
115	LSPN0589	CUSHION FRONT-RIGHT,STYROFOAM	9 PASC-NPC
252	LSJA0464	THERMAL FUSE UNIT	5 PSEC △
253	LSMP0420	SENSOR HOLDER	5 PSEC
330	LSMF0269	TOP DUCT 3 SPONGE 1	5 PASC-NPC
331	LSMF0270	TOP DUCT 3 SPONGE 2	5 PASC-NPC
332	LSMF0271	TOP DUCT 3 SPONGE 3	5 PASC-NPC
333	LSMF0272	TOP DUCT 3 SPONGE 4	5 PASC-NPC
401	XTV4+16AFJ	TAPPING SCREW,STEEL	1,2,3
402	XTV3+8JFN	TAPPING SCREW,STEEL	1,6
411	XYE3+FF8FN	SCREW W/WASHER,STEEL	8
412	XNG3BFN	NUT,STEEL	7,8
417	XYN3+K10FN	SCREW W/WASHER,STEEL	7,8
421	XTV3+8GFJ	TAPPING SCREW,STEEL	2,5,6
447	XYN3+K8FN	SCREW W/WASHER,STEEL	8
451	XTW3+8QFJ	TAPPING SCREW,STEEL	1 PASC-NPC
452	XTV3+8FFN	TAPPING SCREW,STEEL	8
454	XTV4+16AFJK	TAPPING SCREW,STEEL	1 PASC-NPC
456	XTV3+6FFJ	TAPPING SCREW,STEEL	5 PSEC
463	XYN3+FL2FN	SCREW W/WASHER,STEEL	8
465	XTV4+12AFJ	TAPPING SCREW,STEEL	4 PASC-NPC
478	LSHD0099-FJ	SCREW,STEEL	2
479	XYE3+FJ8FN	SCREW W/WASHER,STEEL	6,7
480	XTW3+8TFJ	TAPPING SCREW,STEEL	1 PASC-NPC
481	XTV3+35GFJ	TAPPING SCREW,STEEL	2
483	XYN3+K10FJ	SCREW W/WASHER,STEEL	7
701	LSSC0771	MAIN SHIELD CASE TOP,STEEL	7
702	LSSC0772	MAIN SHIELD CASE BOTTOM,STEEL	7
705	LSMF0319	SHEET	7
709	LSSC0776	CARD SHIELD CASE BOTTOM,STEEL	7
710	LSSC0775	CARD SHIELD CASE TOP,STEEL	7
711	PNA4618M14VT	INFRARED RECEIVER UNIT	6
714	VMTS0035	CUSHION,RUBBER	7
721	EYF52BCY	FUSE HOLDER	7,8
722	LSSC0724	HEAT SINK	7
723	LSSC0767	HEAT SINK	7
724	LSSC0766	HEAT SINK	7
731	LSSC0777	BALLAST SHIELD CASE BOTTOM,STEEL	8
732	LSSC0778	BALLAST SHIELD CASE TOP,STEEL	8
733	KGLS-10RT	CLAMPER	8
734	KGPS-6RFV0	RIVET	8
735	LSSC0630	HEAT SINK	7,8
736	LSSC0629	HEAT SINK	8
737	LSSC0627	HEAT SINK	8
738	LSSC0631	HEAT SINK	8
739	LSSC0628	HEAT SINK	8
740	LSSC0632	HEAT SINK	8
741	LSSC0633	HEAT SINK	8
742	LSMZ0400	BALLAST BARRIER	8
750	VZFS0006	CLAMPER	2,5,7
751	J0KA00000044	FERITE CORE	7
752	LSLQ0307	FERRITE CORE	2,5
759	LSSC0768	HEAT SINK	7
762	LSJA0533	CONNECTOR CABLE W/PLUG	5 PSEC
E10	LSEB3150A	MAIN C.B.A.	6,7 RTL
E11	LSEP3186A	MAIN CHILD C.B.A.	7 RTL

Ref. No.	Part No.	Part Name & Description	Remarks
E20	LSEP3152A	BASE C.B.A.	6,7 RTL
E30	LSEP3153A	POWER C.B.A.	6,7 RTL
E40	LSEP3154A	REAR JACK C.B.A.	6 RTL
E50	LSEP3155A	FRONT JACK C.B.A.	6 RTL
E60	LSEB3161A	CARD C.B.A.	6,7 RTL
E70	LSEB3163A	BALLAST C.B.A. NR	1,8
E71	LSEP3132B	BALLAST CONTROL C.B.A. NR	8
E80	LSEP3156A	OPERATION C.B.A.	2 RTL
E100	LSXY0888	DIGITAL TUNER C.B.A.	1 RTL PASC-NPC
E120	LSEP3166A	THERMISTOR 1 C.B.A.	5 RTL PSEC
E130	LSEB3137A	THERMISTOR 2 C.B.A.	5 RTL PSEC
E140	LSEP3160A	COVER SWITCH C.B.A.	5 RTL PSEC

## 15.3. OPTIONAL ACCESSORY REPLACEMENT PARTS LIST

### 15.3.1. LAMP UNIT

Ref. No.	Part No.	Part Name & Description	Remarks
320	TY-LA1000-K	LAMP UNIT	5 NOTE

#### NOTE:

The Lamp Unit (TY-LA1000-K) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

## 15.4. SERVICE FIXTURES AND TOOLS REPLACEMENT PARTS LIST

#### Definition of Parts supplier:

1. All parts are supplied from PSEC.

#### SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	LSEP3112A	RELAY P.C.B.	PSEC
	LSUA0042	LCD PANEL FLAT EXTENSION CABLE	PSEC
	LSUA0037	SIGNAL EXTENSION CABLE	PSEC
	LSUA0038	POWER EXTENSION CABLE	PSEC
	LSUA0039	FAN1,3 EXTENSION CABLE	PSEC
	LSUA0040	FAN2 EXTENSION CABLE	PSEC
	LSEP3164A	CONVERTER P.C.B.	PSEC
	LSUA0054	EXTENSION CABLE 8P	PSEC
	LSEP3102A	MONITOR P.C.B.	PSEC
	LSUA0041	COVER SWITCH DEFEAT CABLE	PSEC
	LSUA0003	THERMISTOR 1 DEFEAT CABLE	PSEC
	LSUA0013	THERMISTOR 2 DEFEAT CABLE	PSEC
	LSUA0043	RS232C I/F TOOL	PSEC

## 15.5. ELECTRICAL REPLACEMENT PARTS LIST

#### Definition of Parts supplier:

1. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
2. Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.
3. Parts without mark in the Remarks column are supplied from PSECI.

#### PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEP3150A	MAIN C.B.A.	RTL E.S.D.
E11	LSEP3186A	MAIN CHILD C.B.A. *See Schematic Diagram & Circuit Board Layout Notes	RTL
E20	LSEP3152A	BASE C.B.A.	RTL E.S.D.
E30	LSEP3153A	POWER C.B.A.	RTL E.S.D.
E40	LSEP3154A	REAR JACK C.B.A.	RTL
E50	LSEP3155A	FRONT JACK C.B.A.	RTL
E60	LSEB3161A	CARD C.B.A.	RTL
E70	LSEB3163A	BALLAST C.B.A. NR	
E71	LSEP3132B	BALLAST CONTROL C.B.A. NR	
E80	LSEP3156A	OPERATION C.B.A.	RTL
E100	LSXY0888	DIGITAL TUNER C.B.A.	RTL E.S.D. PASC-NPC
E120	LSEP3166A	THERMISTOR 1 C.B.A.	RTL PSEC
E130	LSEB3137A	THERMISTOR 2 C.B.A.	RTL PSEC
E140	LSEP3160A	COVER SWITCH C.B.A.	RTL PSEC

### 15.5.1. MAIN C.B.A.

#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC4101	C0JBAR000344	IC, CMOS STANDARD LOGIC	E.S.D.

Ref. No.	Part No.	Part Name & Description	Remarks
IC5001	C0DBFFD00005	IC, LIENAR *See Schematic Diagram & Circuit Board Layout Notes	
IC5002	C0CBCAC00095	IC, LINEAR	
IC5003	C0CBCAD00012	IC, LINEAR	
IC5004	C1AB00002165	IC, LINEAR	
IC5101	C0CBCAC00095	IC, LINEAR	
IC5102	C0CBCAD00012	IC, LINEAR	
IC5103	C1AB00002202	IC, LINEAR	
IC5105	C0JBAR000190	IC, CMOS STANDARD LOGIC	E.S.D.
IC5301	C1AB00002186	IC, LINEAR	CSP
IC5304	C3ABPJ000063	IC, 64M D RAM	E.S.D.
or IC5304	C3ABPJ000065	IC, 64M D RAM	E.S.D.
or IC5304	C3ABPJ000069	IC, 64M D RAM	E.S.D.
IC5305	C0CBAAG00023	IC, LINEAR	
IC5306	C3ABPJ000063	IC, 64M D RAM	E.S.D.
or IC5306	C3ABPJ000065	IC, 64M D RAM	E.S.D.
or IC5306	C3ABPJ000069	IC, 64M D RAM	E.S.D.
IC5502	C0JBAB000619	IC, LOGIC	E.S.D.
IC5505	C0JBAZ002167	IC, LOGIC	E.S.D.
IC5701	C1AB00002192	IC, LINEAR	
IC5705	C0ZBZ0000967	IC, CMOS STANDARD LOGIC	E.S.D.
IC5706	C0CBCBC00062	IC, LINEAR	
IC5801	LSEQ0809	IC, EEP ROM	E.S.D.
IC5803	C0CBCBC00062	IC, LINEAR	
IC5805	C1AB00002191	IC, LINEAR	
IC5807	C0FBBK000038	IC, LINEAR	
IC5808	C0ABBB000256	IC, LINEAR	
IC5809	C0DBFFD00003	IC, LINEAR	
IC6002	C0CBCBD00008	IC, LINEAR	
IC6003	MN102H90MTZ1	IC, 16BIT MICROCONTROLLER	E.S.D.
IC6004	C0EBE0000275	IC, CMOS STANDARD LOGIC	E.S.D.
IC6006	LSEQ0806	IC, 8K EEP ROM	E.S.D.
IC6007	LSEQ0807	IC, 256K EEP ROM	E.S.D.
IC6009	LSEQ0808	IC, FLASH MEMORY	E.S.D.
IC6010	C0ABCA000064	IC, LINEAR	

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q5001	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5001	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5002	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5002	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5003	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5003	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5004	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5004	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5005	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5005	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5005	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5006	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5006	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5006	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5007	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5007	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5007	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5008	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5009	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5010	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5101	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5101	B1ABCF000020	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q5102	UNR521300L	TRANSISTOR SI NPN CHIP	
or Q5102	B1GBCFNN0009	TRANSISTOR SI NPN CHIP	
or Q5102	B1GBCFNN0031	TRANSISTOR SI NPN CHIP	
Q5103	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5103	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5104	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5104	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5105	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5105	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5106	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5106	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5107	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5107	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5108	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5108	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5108	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5109	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5109	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5109	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5110	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5110	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5110	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5111	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5112	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5113	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q5301	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or Q5301	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q5302	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or Q5302	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q5509	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5509	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5518	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5518	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5519	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5519	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5519	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5520	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5520	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5801	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5801	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5802	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5802	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5803	UNR521300L	TRANSISTOR SI NPN CHIP	
or Q5803	B1GBCFNN0009	TRANSISTOR SI NPN CHIP	
or Q5803	B1GBCFNN0031	TRANSISTOR SI NPN CHIP	
Q5812	2SK137400L	TRANSISTOR FET CHIP	
Q5814	2SK137400L	TRANSISTOR FET CHIP	
Q5816	2SK137400L	TRANSISTOR FET CHIP	
Q5817	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5817	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5818	2SB0709AHL	TRANSISTOR SI PNP CHIP	
or Q5818	B1ADCC000004	TRANSISTOR SI PNP CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
or Q5818	BLADCF000001	TRANSISTOR SI PNP CHIP	
or Q5818	BLADCF000077	TRANSISTOR SI PNP CHIP	
Q5819	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5819	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q5821	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5821	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q5822	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5822	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q5823	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5823	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6001	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or Q6001	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q6002	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or Q6002	BLADCF000063	TRANSISTOR SI PNP CHIP	
Q6003	UNR521300L	TRANSISTOR SI NPN CHIP	
or Q6003	BLGBCFNN0009	TRANSISTOR SI NPN CHIP	
or Q6003	BLGBCFNN0031	TRANSISTOR SI NPN CHIP	
Q6004	UNR521300L	TRANSISTOR SI NPN CHIP	
or Q6004	BLGBCFNN0009	TRANSISTOR SI NPN CHIP	
or Q6004	BLGBCFNN0031	TRANSISTOR SI NPN CHIP	
Q6007	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6007	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6008	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6008	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6009	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6009	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6010	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6010	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6011	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6011	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6012	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6012	BLABCF000020	TRANSISTOR SI NPN CHIP	
Q6013	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6013	BLABCF000020	TRANSISTOR SI NPN CHIP	

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D5502	MA2S37200K8	DIODE SI CHIP	
D5801	MAZT068H0L	DIODE ZENER CHIP 6.8V	
D5802	MA2J111008	DIODE SI CHIP	
or D5802	B0ACCK000005	DIODE SI CHIP	
or D5802	MA2J11100L	DIODE SI CHIP	
D5804	EZJZOV80008B	VARISTOR 80V	
D5805	EZJZOV80008B	VARISTOR 80V	
D5806	EZJZOV80008B	VARISTOR 80V	
D5807	EZJZOV80008B	VARISTOR 80V	
D5808	EZJZOV80008B	VARISTOR 80V	
D5809	EZJZOV80008B	VARISTOR 80V	
D5810	EZJZOV80008B	VARISTOR 80V	
D5811	EZJZOV80008B	VARISTOR 80V	
D6004	MA3J142E0L	DIODE SI CHIP	
or D6004	B0ADCJ000012	DIODE SI CHIP	
D6005	MA3J142D0L	DIODE SI CHIP	
or D6005	B0ADCJ000025	DIODE SI CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
D6006	MA2J111008	DIODE SI CHIP	
or D6006	B0ACCK000005	DIODE SI CHIP	
or D6006	MA2J11100L	DIODE SI CHIP	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3401	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3402	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3403	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3404	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4102	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4103	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4105	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4106	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4107	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4108	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4109	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4110	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4111	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4112	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4113	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4114	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5001	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5002	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5003	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5004	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5005	ERA3YED471V	MGF CHIP 1/16W 470	
R5006	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5007	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5008	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5009	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5010	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5012	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5013	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5014	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5015	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5016	ERJ3EKF5100V	MGF CHIP 1/16W 5.1K	
R5017	ERJ3EKF5100V	MGF CHIP 1/16W 5.1K	
R5018	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5019	ERA3YED271V	MGF CHIP 1/16W 270	
R5020	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5021	ERA3YED122V	MGF CHIP 1/16W 1.2K	
R5022	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R5023	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R5024	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5025	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5026	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R5027	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5028	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5029	ERJ3GEYJ390V	MGF CHIP 1/16W 39	
R5030	ERJ3EKF1401V	MGF CHIP 1/16W 1.4K	
R5031	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5032	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5033	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5034	ERJ3EKF1401V	MGF CHIP 1/16W 1.4K	
R5035	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5036	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5037	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5038	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5039	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5040	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5041	ERA3YHD330V	MGF CHIP 1/16W 33	
R5042	ERA3YED151V	MGF CHIP 1/16W 150	
R5043	ERA3YHD330V	MGF CHIP 1/16W 33	
R5044	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5045	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5046	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5047	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5048	ERA3YHD330V	MGF CHIP 1/16W 33	
R5049	ERA3YED151V	MGF CHIP 1/16W 150	

Ref. No.	Part No.	Part Name & Description	Remarks
R5050	ERA3YHD330V	MGF CHIP 1/16W 33	
R5051	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5052	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5053	EXBV8V470JV	ARRAY CHIP 47	
R5054	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5055	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5056	ERA3YHD330V	MGF CHIP 1/16W 33	
R5057	ERA3YED151V	MGF CHIP 1/16W 150	
R5058	ERA3YHD330V	MGF CHIP 1/16W 33	
R5059	EXBV8V470JV	ARRAY CHIP 47	
R5060	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5061	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5062	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5063	EXBV8V470JV	ARRAY CHIP 47	
R5064	EXBV8V470JV	ARRAY CHIP 47	
R5065	EXBV8V470JV	ARRAY CHIP 47	
R5066	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5067	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5068	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5069	ERJ3GEYJ390V	MGF CHIP 1/16W 39	
R5070	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5071	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5072	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5073	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5074	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5075	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5076	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5082	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5083	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5101	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5102	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5103	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5104	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5105	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5106	ERA3YED331V	MGF CHIP 1/16W 330	
R5107	ERJ3EKF7500V	MGF CHIP 1/16W 750	
R5108	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5109	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5110	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5111	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5112	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5113	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5114	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5115	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5116	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5117	ERA3YED221V	MGF CHIP 1/16W 220	
R5118	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5119	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5120	EXBV8V470JV	ARRAY CHIP 47	
R5121	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5122	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5123	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5124	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5125	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5126	ERJ3EKF5100V	MGF CHIP 1/16W 5.1K	
R5127	ERJ3EKF5100V	MGF CHIP 1/16W 5.1K	
R5128	ERJ3EKF1401V	MGF CHIP 1/16W 1.4K	
R5129	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5130	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5131	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5132	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5133	EXBV8V470JV	ARRAY CHIP 47	
R5134	ERJ3EKF2001V	MGF CHIP 1/16W 2K	
R5135	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R5136	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R5137	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5138	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5139	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R5140	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5141	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5142	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R5143	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5144	EXBV8V470JV	ARRAY CHIP 47	

Ref. No.	Part No.	Part Name & Description	Remarks
R5145	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5146	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5147	ERA3YHD330V	MGF CHIP 1/16W 33	
R5148	ERA3YED151V	MGF CHIP 1/16W 150	
R5149	ERA3YHD330V	MGF CHIP 1/16W 33	
R5150	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5151	EXBV8V470JV	ARRAY CHIP 47	
R5152	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5153	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5154	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5155	ERA3YHD330V	MGF CHIP 1/16W 33	
R5156	ERA3YED151V	MGF CHIP 1/16W 150	
R5157	ERA3YHD330V	MGF CHIP 1/16W 33	
R5158	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5159	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5160	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5161	ERA3YHD330V	MGF CHIP 1/16W 33	
R5162	ERA3YED151V	MGF CHIP 1/16W 150	
R5163	ERA3YHD330V	MGF CHIP 1/16W 33	
R5164	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5165	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5166	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5167	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5168	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5169	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5170	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5304	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5305	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5306	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5307	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R5308	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5309	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5310	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5311	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5312	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5313	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5314	ERJ3GEYJ112V	MGF CHIP 1/16W 1.1K	
R5315	ERJ3GEYJ112V	MGF CHIP 1/16W 1.1K	
R5316	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5317	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5323	EXBV8V220JV	ARRAY CHIP 22	
R5324	EXBV8V220JV	ARRAY CHIP 22	
R5325	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5330	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5331	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5333	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5334	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5335	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5336	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5337	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5338	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5339	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5340	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5341	EXBV8V220JV	ARRAY CHIP 22	
R5342	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5343	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5344	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R5345	EXBV8V470JV	ARRAY CHIP 47	
R5346	EXBV8V470JV	ARRAY CHIP 47	
R5347	EXBV8V470JV	ARRAY CHIP 47	
R5348	EXBV8V470JV	ARRAY CHIP 47	
R5349	EXBV8V470JV	ARRAY CHIP 47	
R5350	EXBV8V470JV	ARRAY CHIP 47	
R5351	EXBV8V470JV	ARRAY CHIP 47	
R5352	EXBV8V470JV	ARRAY CHIP 47	
R5353	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5354	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5355	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5356	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5357	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R5358	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5359	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5360	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	

Ref. No.	Part No.	Part Name & Description	Remarks
R5361	ERJ3GEYJ112V	MGF CHIP 1/16W 1.1K	
R5362	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5363	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R5364	EXBV8V220JV	ARRAY CHIP 22	
R5365	EXBV8V220JV	ARRAY CHIP 22	
R5366	EXBV8V220JV	ARRAY CHIP 22	
R5367	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5368	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5369	EXBV8V470JV	ARRAY CHIP 47	
R5370	EXBV8V470JV	ARRAY CHIP 47	
R5371	EXBV8V470JV	ARRAY CHIP 47	
R5372	EXBV8V470JV	ARRAY CHIP 47	
R5373	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5374	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5375	EXBV8V470JV	ARRAY CHIP 47	
R5376	EXBV8V470JV	ARRAY CHIP 47	
R5377	EXBV8V470JV	ARRAY CHIP 47	
R5378	EXBV8V470JV	ARRAY CHIP 47	
R5379	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5380	EXBV8V470JV	ARRAY CHIP 47	
R5381	EXBV8V470JV	ARRAY CHIP 47	
R5382	EXBV8V470JV	ARRAY CHIP 47	
R5383	EXBV8V470JV	ARRAY CHIP 47	
R5384	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R5385	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5388	EXBV8V470JV	ARRAY CHIP 47	
R5389	EXBV8V470JV	ARRAY CHIP 47	
R5390	EXBV8V470JV	ARRAY CHIP 47	
R5391	EXBV8V470JV	ARRAY CHIP 47	
R5392	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5393	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5394	EXBV8V470JV	ARRAY CHIP 47	
R5395	EXBV8V470JV	ARRAY CHIP 47	
R5396	EXBV8V470JV	ARRAY CHIP 47	
R5397	EXBV8V470JV	ARRAY CHIP 47	
R5398	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5399	EXBV8V470JV	ARRAY CHIP 47	
R5400	EXBV8V470JV	ARRAY CHIP 47	
R5401	EXBV8V470JV	ARRAY CHIP 47	
R5402	EXBV8V470JV	ARRAY CHIP 47	
R5403	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5404	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5405	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5406	EXBV8V470JV	ARRAY CHIP 47	
R5407	EXBV8V470JV	ARRAY CHIP 47	
R5408	EXBV8V470JV	ARRAY CHIP 47	
R5409	EXBV8V470JV	ARRAY CHIP 47	
R5508	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5509	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5510	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5511	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R5512	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5519	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5529	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5530	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5532	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5548	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5549	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5550	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5551	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R5552	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5553	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R5554	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5555	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5590	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5701	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5702	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5703	EXBV8V470JV	ARRAY CHIP 47	
R5704	EXBV8V470JV	ARRAY CHIP 47	
R5705	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R5706	ERJ3GEYJ680V	MGF CHIP 1/16W 68	
R5707	EXBV8V470JV	ARRAY CHIP 47	
R5708	EXBV8V470JV	ARRAY CHIP 47	

Ref. No.	Part No.	Part Name & Description	Remarks
R5709	EXBV8V470JV	ARRAY CHIP 47	
R5710	EXBV8V470JV	ARRAY CHIP 47	
R5750	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5756	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5757	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5759	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R5760	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5767	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5768	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5769	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5770	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5771	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5772	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5773	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5774	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5775	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5776	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5779	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5780	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5781	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5802	ERJ3GEYJ390V	MGF CHIP 1/16W 39	
R5803	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5804	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5805	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5806	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5807	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5808	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5809	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5810	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5811	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5812	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5813	ERJ2GEJ2R7X	MGF CHIP 1/16W 2.7	
R5814	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R5815	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5816	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5817	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R5818	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5819	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5820	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R5821	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5822	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R5854	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5855	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R5857	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5858	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5859	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R5861	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5862	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5864	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5865	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5866	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5867	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5883	EXBV8V220JV	ARRAY CHIP 22	
R5884	EXBV8V220JV	ARRAY CHIP 22	
R5885	EXBV8V220JV	ARRAY CHIP 22	
R5886	EXBV8V220JV	ARRAY CHIP 22	
R5892	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R5898	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5901	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5902	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5903	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5904	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5905	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5907	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5908	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5909	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5912	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5913	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R5914	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R5915	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5916	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R5917	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5918	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	



Ref. No.	Part No.	Part Name & Description	Remarks
R5919	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5920	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5921	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5922	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R5923	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5924	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5925	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R5926	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R5927	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5928	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5929	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R5930	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R5940	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R5943	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5944	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5946	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5947	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5948	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5949	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5950	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5951	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5952	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R5953	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R5954	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R5955	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R5956	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5957	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5958	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5960	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5961	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5963	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5964	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5965	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5966	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5967	ERJ3GEYJ330V	MGF CHIP 1/16W 33	
R5968	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R5969	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6001	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6002	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6003	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6004	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6005	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6006	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6007	D1H84734A008	ARRAY CHIP 47K	
R6008	D1H84734A008	ARRAY CHIP 47K	
R6009	D1H84734A008	ARRAY CHIP 47K	
R6010	D1H84734A008	ARRAY CHIP 47K	
R6011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6013	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6014	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6015	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6016	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6017	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6018	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6019	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6020	ERJ3GEYJ271V	MGF CHIP 1/16W 270	
R6021	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R6022	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R6023	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6024	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6025	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6026	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6027	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R6028	EXBV8V470JV	ARRAY CHIP 47	
R6029	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6030	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6031	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6032	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6033	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6034	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6035	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6036	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6038	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6039	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6040	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6041	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6042	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6043	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6044	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6045	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6046	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6047	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R6048	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6049	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R6050	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6051	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6052	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6053	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6054	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6055	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6056	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6057	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6058	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6059	EXBV8V470JV	ARRAY CHIP 47	
R6060	EXBV8V470JV	ARRAY CHIP 47	
R6061	EXBV8V470JV	ARRAY CHIP 47	
R6062	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6063	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6064	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6065	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6066	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6067	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6068	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6069	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6070	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6071	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6072	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6073	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6074	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6075	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6076	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6077	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6078	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6079	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6080	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6081	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6082	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6083	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6084	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6085	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6086	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6087	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6088	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6089	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6090	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6091	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6092	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6093	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6094	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6095	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6096	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6097	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6098	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6099	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6100	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6101	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6102	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6103	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6104	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6105	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6106	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6107	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6108	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6109	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

Ref. No.	Part No.	Part Name & Description	Remarks
R6110	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6111	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6112	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6113	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6114	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6115	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6116	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6117	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6118	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6119	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6120	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6121	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6122	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6123	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6124	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6125	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6126	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6127	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6128	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6129	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6130	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6131	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6132	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6133	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6134	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6135	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6136	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6137	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6138	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6139	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6140	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6141	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6157	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6158	EXBV8V121JV	ARRAY CHIP 120	
R6159	EXBV8V121JV	ARRAY CHIP 120	
R6160	EXBV8V121JV	ARRAY CHIP 120	
R6161	EXBV8V121JV	ARRAY CHIP 120	
R6162	EXBV8V121JV	ARRAY CHIP 120	
R6163	EXBV8V121JV	ARRAY CHIP 120	
R6164	EXBV8V121JV	ARRAY CHIP 120	
R6165	EXBV8V121JV	ARRAY CHIP 120	
R6166	EXBV8V121JV	ARRAY CHIP 120	
R6167	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6168	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6169	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6170	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6171	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6172	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6173	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6174	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6175	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6176	ERJ3EKF3901V	MGF CHIP 1/16W 3.9K	
R6177	ERJ3EKF6801V	MGF CHIP 1/16W 6.8K	
R6178	ERJ3EKF6800V	MGF CHIP 1/16W 680	
R6179	ERJ3EKF6800V	MGF CHIP 1/16W 680	
R6180	ERJ3EKF6800V	MGF CHIP 1/16W 680	
R6181	ERJ3EKF6800V	MGF CHIP 1/16W 680	
R6183	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6184	ERJ3EKF2002V	MGF CHIP 1/16W 20K	
R6185	ERJ3EKF2002V	MGF CHIP 1/16W 20K	
R6186	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R6187	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R6188	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R6189	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R6190	ERJ3EKF2002V	MGF CHIP 1/16W 20K	
R6191	ERJ3EKF2002V	MGF CHIP 1/16W 20K	
R6192	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6193	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6200	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6201	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6202	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C3401	F1H1H101A230	C CHIP 50V 100PF	
C3402	F1H1H101A230	C CHIP 50V 100PF	
C3403	F1H1C104A008	C CHIP 16V 0.1UF	
C3404	F1H1H101A230	C CHIP 50V 100PF	
C3405	F1H1H101A230	C CHIP 50V 100PF	
C3406	F1H1C104A008	C CHIP 16V 0.1UF	
C3407	F1H1C104A008	C CHIP 16V 0.1UF	
C3408	F1H1C104A008	C CHIP 16V 0.1UF	
C3409	F1H1C104A008	C CHIP 16V 0.1UF	
C3410	F1H1H101A230	C CHIP 50V 100PF	
C3416	F1H1H103A219	C CHIP 50V 0.01UF	
C3417	F1H1C104A008	C CHIP 16V 0.1UF	
C3418	F1H1C104A008	C CHIP 16V 0.1UF	
C3419	F1H1C104A008	C CHIP 16V 0.1UF	
C3420	F1H1C104A008	C CHIP 16V 0.1UF	
C3421	F1H1C104A008	C CHIP 16V 0.1UF	
C3422	F1H1C104A008	C CHIP 16V 0.1UF	
C3423	F1H1C104A008	C CHIP 16V 0.1UF	
C3437	F1H1C104A008	C CHIP 16V 0.1UF	
C3438	F1H1C104A008	C CHIP 16V 0.1UF	
C3439	F1H1H101A230	C CHIP 50V 100PF	
C3440	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
C3441	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
C4105	F1H1C104A008	C CHIP 16V 0.1UF	
C4107	F1J1A1050004	C CHIP 10V 1UF	
C4108	EEE1CA220SR	ELECTROLYTIC 16V 22UF	
C4109	F1J1A1050004	C CHIP 10V 1UF	
C4111	F1H1C104A008	C CHIP 16V 0.1UF	
C4112	F1J1A1050004	C CHIP 10V 1UF	
C4113	F1J1A1050004	C CHIP 10V 1UF	
C4114	F1J1A1050004	C CHIP 10V 1UF	
C4115	F1J1A1050004	C CHIP 10V 1UF	
C5002	F1H1A105A019	C CHIP 10V 1UF	
C5004	F1H1E103A029	C CHIP 25V 0.01UF	
C5005	F1J1A1050004	C CHIP 10V 1UF	
C5007	F1H1H101A230	C CHIP 50V 100PF	
C5008	F1H1E103A029	C CHIP 25V 0.01UF	
C5010	F1H1H330A230	C CHIP 50V 33PF	
C5011	F1H1H330A230	C CHIP 50V 33PF	
C5012	F1H1C104A008	C CHIP 16V 0.1UF	
C5013	F1J1A1050004	C CHIP 10V 1UF	
C5014	F1J1A1050004	C CHIP 10V 1UF	
C5015	F1H1C104A008	C CHIP 16V 0.1UF	
C5016	F1J1A1050004	C CHIP 10V 1UF	
C5017	F1J1A1050004	C CHIP 10V 1UF	
C5018	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5020	F1H1C104A008	C CHIP 16V 0.1UF	
C5021	F1H1C104A008	C CHIP 16V 0.1UF	
C5022	F1H1C104A008	C CHIP 16V 0.1UF	
C5023	F1H1C104A008	C CHIP 16V 0.1UF	
C5024	F1H1C104A008	C CHIP 16V 0.1UF	
C5025	F1H1H150A230	C CHIP 50V 15PF	
C5026	F1H1H680A736	C CHIP 50V 68PF	
C5027	F1H1H680A736	C CHIP 50V 68PF	
C5028	F1H1H150A230	C CHIP 50V 15PF	
C5029	F1H1H220A230	C CHIP 50V 22PF	
C5030	F1H1H220A230	C CHIP 50V 22PF	
C5031	F1H1C104A008	C CHIP 16V 0.1UF	
C5032	F1H1C104A008	C CHIP 16V 0.1UF	
C5033	F1H1C104A008	C CHIP 16V 0.1UF	
C5034	F1H1C104A008	C CHIP 16V 0.1UF	
C5035	F1H1C104A008	C CHIP 16V 0.1UF	
C5036	F1H1C104A008	C CHIP 16V 0.1UF	
C5037	F1H1C104A008	C CHIP 16V 0.1UF	
C5038	F1J1A1050004	C CHIP 10V 1UF	
C5039	F1H1C104A008	C CHIP 16V 0.1UF	
C5040	F1H1C104A008	C CHIP 16V 0.1UF	
C5041	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5042	F1H1C104A008	C CHIP 16V 0.1UF	
C5043	F1H1C104A008	C CHIP 16V 0.1UF	
C5044	F1H1C104A008	C CHIP 16V 0.1UF	
C5045	F1H1C104A008	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C5046	F1H1C104A008	C CHIP 16V 0.1UF	
C5047	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5048	F1H1C104A008	C CHIP 16V 0.1UF	
C5049	F1H1C104A008	C CHIP 16V 0.1UF	
C5050	F1H1C104A008	C CHIP 16V 0.1UF	
C5051	F1H1C104A008	C CHIP 16V 0.1UF	
C5052	F1H1C104A008	C CHIP 16V 0.1UF	
C5053	F1H1C104A008	C CHIP 16V 0.1UF	
C5054	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5055	F1H1C104A008	C CHIP 16V 0.1UF	
C5056	F1H1C104A008	C CHIP 16V 0.1UF	
C5057	F1H1C104A008	C CHIP 16V 0.1UF	
C5058	F1H1C104A008	C CHIP 16V 0.1UF	
C5059	F1H1C104A008	C CHIP 16V 0.1UF	
C5060	F1H1C104A008	C CHIP 16V 0.1UF	
C5061	F1H1C104A008	C CHIP 16V 0.1UF	
C5062	F1H1E103A029	C CHIP 25V 0.01UF	
C5063	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5065	F1J1A1050004	C CHIP 10V 1UF	
C5066	F1H1C104A008	C CHIP 16V 0.1UF	
C5067	F1H1C104A008	C CHIP 16V 0.1UF	
C5068	F1H1C104A008	C CHIP 16V 0.1UF	
C5069	F1H1C104A008	C CHIP 16V 0.1UF	
C5070	F1H1C104A008	C CHIP 16V 0.1UF	
C5071	F1H1C104A008	C CHIP 16V 0.1UF	
C5072	F1H1C104A008	C CHIP 16V 0.1UF	
C5073	ECJ1VB1H471K	C CHIP 50V 470PF *See Schematic Diagram & Circuit Board Layout Notes	
C5101	F1H1C104A008	C CHIP 16V 0.1UF	
C5102	F1H1A105A019	C CHIP 10V 1UF	
C5103	F1H1E103A029	C CHIP 25V 0.01UF	
C5104	F1H1E103A029	C CHIP 25V 0.01UF	
C5106	F1J1A1050004	C CHIP 10V 1UF	
C5107	F1J1A1050004	C CHIP 10V 1UF	
C5110	F1H1C104A008	C CHIP 16V 0.1UF	
C5111	F1H1C104A041	C CHIP 16V 0.1UF	
C5112	F1H1C104A008	C CHIP 16V 0.1UF	
C5113	F1H1C104A008	C CHIP 16V 0.1UF	
C5114	F1H1C104A008	C CHIP 16V 0.1UF	
C5115	F1H1H471A189	C CHIP 50V 470PF	
C5116	F1H1C104A041	C CHIP 16V 0.1UF	
C5117	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5119	F1H1C104A008	C CHIP 16V 0.1UF	
C5120	F1H1C104A008	C CHIP 16V 0.1UF	
C5121	F1H1C104A008	C CHIP 16V 0.1UF	
C5122	F1H1C104A008	C CHIP 16V 0.1UF	
C5123	F1H1C104A008	C CHIP 16V 0.1UF	
C5124	F1H1H330A230	C CHIP 50V 33PF	
C5125	F1H1H150A230	C CHIP 50V 15PF	
C5126	F1H1H680A736	C CHIP 50V 68PF	
C5128	F1H1C104A008	C CHIP 16V 0.1UF	
C5129	F1H1H150A230	C CHIP 50V 15PF	
C5130	F1H1C104A008	C CHIP 16V 0.1UF	
C5131	F1H1H120A230	C CHIP 50V 12PF	
C5132	F1H1H120A230	C CHIP 50V 12PF	
C5133	F1H1C104A008	C CHIP 16V 0.1UF	
C5134	F1H1C104A008	C CHIP 16V 0.1UF	
C5135	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5136	F1H1C104A008	C CHIP 16V 0.1UF	
C5137	F1H1C104A008	C CHIP 16V 0.1UF	
C5138	F1H1C104A008	C CHIP 16V 0.1UF	
C5139	F1H1C104A008	C CHIP 16V 0.1UF	
C5140	F1H1C104A008	C CHIP 16V 0.1UF	
C5141	F1J1A1050004	C CHIP 10V 1UF	
C5142	F1H1C104A008	C CHIP 16V 0.1UF	
C5143	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5144	F1H1C104A008	C CHIP 16V 0.1UF	
C5145	F1H1C104A008	C CHIP 16V 0.1UF	
C5146	F1H1C104A008	C CHIP 16V 0.1UF	
C5147	ECJ2FB0J106K	C CHIP 6.3V 10UF	
C5148	F1H1C104A008	C CHIP 16V 0.1UF	
C5149	F1H1C104A008	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C5150	F1H1C104A008	C CHIP 16V 0.1UF	
C5151	F1H1C104A008	C CHIP 16V 0.1UF	
C5152	F1H1C104A008	C CHIP 16V 0.1UF	
C5153	F1H1C104A008	C CHIP 16V 0.1UF	
C5154	F1H1C104A008	C CHIP 16V 0.1UF	
C5155	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5157	F1H1C104A008	C CHIP 16V 0.1UF	
C5158	F1H1C104A008	C CHIP 16V 0.1UF	
C5159	F1H1C104A008	C CHIP 16V 0.1UF	
C5160	F1H1C104A008	C CHIP 16V 0.1UF	
C5161	F1H1C104A008	C CHIP 16V 0.1UF	
C5162	F1H1H180A230	C CHIP 50V 18PF	
C5163	F1H1H180A230	C CHIP 50V 18PF	
C5175	F1H1C104A008	C CHIP 16V 0.1UF	
C5180	ECJ2YB0J225K	C CHIP 6.3V 2.2UF *See Schematic Diagram & Circuit Board Layout Notes	
C5181	ECJ1VF1A105Z	C CHIP 10V 1UF *See Schematic Diagram & Circuit Board Layout Notes	
C5304	F1H1C104A008	C CHIP 16V 0.1UF	
C5305	F1H1C104A008	C CHIP 16V 0.1UF	
C5306	F1H1C104A008	C CHIP 16V 0.1UF	
C5308	F1H1C104A008	C CHIP 16V 0.1UF	
C5309	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5310	F1H1C104A008	C CHIP 16V 0.1UF	
C5311	F1H1C104A008	C CHIP 16V 0.1UF	
C5312	F1H1C104A008	C CHIP 16V 0.1UF	
C5313	F1H1C104A008	C CHIP 16V 0.1UF	
C5314	F1H1C104A008	C CHIP 16V 0.1UF	
C5315	F1H1C104A008	C CHIP 16V 0.1UF	
C5316	F1H1C104A008	C CHIP 16V 0.1UF	
C5317	F1H1C104A008	C CHIP 16V 0.1UF	
C5319	F1H1H221A009	C CHIP 50V 220PF	
C5320	F1J1A1050004	C CHIP 10V 1UF	
C5322	F1H1C104A008	C CHIP 16V 0.1UF	
C5323	F1H1C104A008	C CHIP 16V 0.1UF	
C5324	F1H1C104A008	C CHIP 16V 0.1UF	
C5326	F1J1A1050004	C CHIP 10V 1UF	
C5327	F1H1C104A008	C CHIP 16V 0.1UF	
C5328	F1H1C104A008	C CHIP 16V 0.1UF	
C5329	F1H1C104A008	C CHIP 16V 0.1UF	
C5330	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5331	F1H1C104A008	C CHIP 16V 0.1UF	
C5332	F1H1C104A008	C CHIP 16V 0.1UF	
C5333	F1H1C104A008	C CHIP 16V 0.1UF	
C5334	F1H1C104A008	C CHIP 16V 0.1UF	
C5335	F1H1C104A008	C CHIP 16V 0.1UF	
C5336	F1H1C104A008	C CHIP 16V 0.1UF	
C5338	F1H1C104A008	C CHIP 16V 0.1UF	
C5339	F1H1C104A008	C CHIP 16V 0.1UF	
C5340	F1H1C104A008	C CHIP 16V 0.1UF	
C5341	F1H1C104A008	C CHIP 16V 0.1UF	
C5342	F1H1C104A008	C CHIP 16V 0.1UF	
C5343	F1H1C104A008	C CHIP 16V 0.1UF	
C5344	F1H1C104A008	C CHIP 16V 0.1UF	
C5345	ECJ1VC1H121J	C CHIP 50V 120PF	
C5346	F1J1A1050004	C CHIP 10V 1UF	
C5348	F1J1A1050004	C CHIP 10V 1UF	
C5350	F1J1A1050004	C CHIP 10V 1UF	
C5351	F1H1C104A008	C CHIP 16V 0.1UF	
C5352	F1H1C104A008	C CHIP 16V 0.1UF	
C5353	F1H1C104A008	C CHIP 16V 0.1UF	
C5354	F1H1C104A008	C CHIP 16V 0.1UF	
C5355	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5356	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5357	F1H1C104A008	C CHIP 16V 0.1UF	
C5358	F1H1C104A008	C CHIP 16V 0.1UF	
C5359	F1H1C104A008	C CHIP 16V 0.1UF	
C5360	F1H1C104A008	C CHIP 16V 0.1UF	
C5361	F1H1C104A008	C CHIP 16V 0.1UF	
C5362	F1H1C104A008	C CHIP 16V 0.1UF	
C5363	F1H1C104A008	C CHIP 16V 0.1UF	
C5364	F1H1C104A008	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C5366	F1H1C104A008	C CHIP 16V 0.1UF	
C5367	F1H1C104A008	C CHIP 16V 0.1UF	
C5368	F1H1C104A008	C CHIP 16V 0.1UF	
C5369	F1H1C104A008	C CHIP 16V 0.1UF	
C5370	F1H1C104A008	C CHIP 16V 0.1UF	
C5371	F1H1C104A008	C CHIP 16V 0.1UF	
C5372	F1H1C104A008	C CHIP 16V 0.1UF	
C5373	F1H1C104A008	C CHIP 16V 0.1UF	
C5374	F1H1C104A008	C CHIP 16V 0.1UF	
C5375	F1H1C104A008	C CHIP 16V 0.1UF	
C5376	F1H1C104A008	C CHIP 16V 0.1UF	
C5378	F1H1C104A008	C CHIP 16V 0.1UF	
C5380	F1J1A1050004	C CHIP 10V 1UF	
C5381	F1H1H471A189	C CHIP 50V 470PF	
C5382	F1J1A1050004	C CHIP 10V 1UF	
C5384	F1H1C104A008	C CHIP 16V 0.1UF	
C5385	F1H1C104A008	C CHIP 16V 0.1UF	
C5386	F1H1C104A008	C CHIP 16V 0.1UF	
C5387	F1H1C104A008	C CHIP 16V 0.1UF	
C5388	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5389	F1H1C104A008	C CHIP 16V 0.1UF	
C5390	F1H1C104A008	C CHIP 16V 0.1UF	
C5392	F1H1C104A008	C CHIP 16V 0.1UF	
C5393	F1H1C104A008	C CHIP 16V 0.1UF	
C5394	F1H1C104A008	C CHIP 16V 0.1UF	
C5395	F1H1C104A008	C CHIP 16V 0.1UF	
C5396	F1H1C104A008	C CHIP 16V 0.1UF	
C5397	F1H1C104A008	C CHIP 16V 0.1UF	
C5398	F1H1C104A008	C CHIP 16V 0.1UF	
C5399	F1H1C104A008	C CHIP 16V 0.1UF	
C5400	F1H1C104A008	C CHIP 16V 0.1UF	
C5401	F1H1C104A008	C CHIP 16V 0.1UF	
C5402	F1H1C104A008	C CHIP 16V 0.1UF	
C5404	F1H1C104A008	C CHIP 16V 0.1UF	
C5408	F1H1C104A008	C CHIP 16V 0.1UF	
C5409	F1H1C104A008	C CHIP 16V 0.1UF	
C5429	F1H1H103A219	C CHIP 50V 0.01UF	
C5514	F1H1C104A008	C CHIP 16V 0.1UF	
C5515	EEE0JA101SP	ELECTROLYTIC 6.3V 100UF	
C5517	F1H1C104A008	C CHIP 16V 0.1UF	
C5519	F1H1E103A029	C CHIP 25V 0.01UF	
C5522	F1H1C104A041	C CHIP 16V 0.1UF	
C5562	F1H1C104A008	C CHIP 16V 0.1UF	
C5563	F1H1C104A041	C CHIP 16V 0.1UF	
C5701	F1H1C104A008	C CHIP 16V 0.1UF	
C5702	F1H1C104A008	C CHIP 16V 0.1UF	
C5704	F1H1C104A008	C CHIP 16V 0.1UF	
C5705	F1H1C104A008	C CHIP 16V 0.1UF	
C5706	F1H1C104A008	C CHIP 16V 0.1UF	
C5707	F1H1C104A008	C CHIP 16V 0.1UF	
C5708	F1H1C104A008	C CHIP 16V 0.1UF	
C5709	F1H1C104A008	C CHIP 16V 0.1UF	
C5710	F1J1A1050004	C CHIP 10V 1UF	
C5711	F1H1C104A008	C CHIP 16V 0.1UF	
C5712	F1H1C104A008	C CHIP 16V 0.1UF	
C5713	F1H1C104A008	C CHIP 16V 0.1UF	
C5714	F1H1C104A008	C CHIP 16V 0.1UF	
C5726	F1H1C104A041	C CHIP 16V 0.1UF	
C5727	F1H1C104A041	C CHIP 16V 0.1UF	
C5728	F1H1C104A041	C CHIP 16V 0.1UF	
C5729	F1H1A105A019	C CHIP 10V 1UF	
C5730	F1H1E103A029	C CHIP 25V 0.01UF	
C5731	F1J1A1050004	C CHIP 10V 1UF	
C5733	F1H1C104A041	C CHIP 16V 0.1UF	
C5734	F1H1C104A041	C CHIP 16V 0.1UF	
C5801	F1H1C104A008	C CHIP 16V 0.1UF	
C5802	F1H1C104A008	C CHIP 16V 0.1UF	
C5803	F1H1A105A019	C CHIP 10V 1UF	
C5804	F1H1C104A008	C CHIP 16V 0.1UF	
C5805	EEE0JA220SR	ELECTROLYTIC 6.3V 22UF	
C5806	F1H1C104A008	C CHIP 16V 0.1UF	
C5819	F1H1C104A008	C CHIP 16V 0.1UF	
C5820	F1H1C104A008	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C5821	F1H1C104A008	C CHIP 16V 0.1UF	
C5822	F1H1C104A008	C CHIP 16V 0.1UF	
C5823	F1H1C104A008	C CHIP 16V 0.1UF	
C5824	F1H1C104A008	C CHIP 16V 0.1UF	
C5825	F1H1C104A008	C CHIP 16V 0.1UF	
C5826	F1H1C104A008	C CHIP 16V 0.1UF	
C5827	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5828	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5829	F1H1C104A008	C CHIP 16V 0.1UF	
C5830	F1H1C104A008	C CHIP 16V 0.1UF	
C5831	F1H1H103A220	C CHIP 50V 0.01UF	
C5832	F1H1C104A008	C CHIP 16V 0.1UF	
C5833	F1H1H103A220	C CHIP 50V 0.01UF	
C5834	F1H1C104A008	C CHIP 16V 0.1UF	
C5835	F1H1C104A008	C CHIP 16V 0.1UF	
C5836	F1H1C104A008	C CHIP 16V 0.1UF	
C5837	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5838	F1H1C104A008	C CHIP 16V 0.1UF	
C5839	F1H1C104A008	C CHIP 16V 0.1UF	
C5840	F1H1C104A008	C CHIP 16V 0.1UF	
C5841	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C5842	EEE1CA100SR	ELECTROLYTIC 16V 10UF	
C5843	F1H1C104A008	C CHIP 16V 0.1UF	
C5844	EEE1CA4R7NR	ELECTROLYTIC 16V 4.7UF	
C5845	EEE1CA4R7NR	ELECTROLYTIC 16V 4.7UF	
C5846	F1H1C104A008	C CHIP 16V 0.1UF	
C5847	F1H1H181A230	C CHIP 50V 180PF	
C5848	F1H1H181A230	C CHIP 50V 180PF	
C5849	F1H1H330A230	C CHIP 50V 33PF	
C5850	F1H1H330A230	C CHIP 50V 33PF	
C5851	F1H1C104A008	C CHIP 16V 0.1UF	
C5852	EEE1CA100SR	ELECTROLYTIC 16V 10UF	
C5853	EEE1CA100SR	ELECTROLYTIC 16V 10UF	
C5854	F1H1H272A219	C CHIP 50V 2700PF	
C5855	F1H1H272A219	C CHIP 50V 2700PF	
C5856	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C5857	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C5858	F1H1C104A008	C CHIP 16V 0.1UF	
C5866	F1H1C104A008	C CHIP 16V 0.1UF	
C5867	F1H1C104A008	C CHIP 16V 0.1UF	
C5868	F1H1C104A008	C CHIP 16V 0.1UF	
C5870	F1H1C104A008	C CHIP 16V 0.1UF	
C5871	F1H1C104A008	C CHIP 16V 0.1UF	
C5872	F1H1C104A008	C CHIP 16V 0.1UF	
C5877	F1J0J2250003	C CHIP 6.3V 2.2UF	
C5878	F1H1H471A189	C CHIP 50V 470PF	
C5879	F1H1A105A019	C CHIP 10V 1UF	
C5900	F1H1A105A019	C CHIP 10V 1UF	
C5901	F1H1E103A029	C CHIP 25V 0.01UF	
C5902	F1J1A1050004	C CHIP 10V 1UF	
C5903	F1H1C104A008	C CHIP 16V 0.1UF	
C5904	F1H1C104A008	C CHIP 16V 0.1UF	
C5905	F1H1H103A220	C CHIP 50V 0.01UF	
C5906	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5907	F1H1H103A220	C CHIP 50V 0.01UF	
C5908	F1H1C104A008	C CHIP 16V 0.1UF	
C5909	F1H1C104A008	C CHIP 16V 0.1UF	
C5910	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C5911	F1H1C104A008	C CHIP 16V 0.1UF	
C5912	F1H1C104A008	C CHIP 16V 0.1UF	
C5913	F1H1H180A230	C CHIP 50V 18PF	
C5914	F1H1H180A230	C CHIP 50V 18PF	
C6003	F1H1H101A230	C CHIP 50V 100PF	
C6004	F1H1H471A737	C CHIP 50V 470PF	
C6005	F1H1H471A737	C CHIP 50V 470PF	
C6006	F1H1H5610004	C CHIP 50V 560PF	
C6007	F1H1H5610004	C CHIP 50V 560PF	
C6008	F1J1A1050004	C CHIP 10V 1UF	
C6009	F1J1A1050004	C CHIP 10V 1UF	
C6010	F1H1C104A008	C CHIP 16V 0.1UF	
C6011	EEE0JA220NR	ELECTROLYTIC 6.3V 2.2UF	
C6012	EEE0JA220NR	ELECTROLYTIC 6.3V 2.2UF	
C6015	F1H1H101A230	C CHIP 50V 100PF	

Ref. No.	Part No.	Part Name & Description	Remarks
C6016	F1H1H101A230	C CHIP 50V 100PF	
C6017	F1H1C104A008	C CHIP 16V 0.1UF	
C6018	F1H1E103A029	C CHIP 25V 0.01UF	
C6019	F1J1A1050004	C CHIP 10V 1UF	
C6020	F1H1H101A230	C CHIP 50V 100PF	
C6021	F1H1H101A230	C CHIP 50V 100PF	
C6024	F1H1C104A008	C CHIP 16V 0.1UF	
C6025	F1J1A1050004	C CHIP 10V 1UF	
C6026	F1J1A1050004	C CHIP 10V 1UF	
C6027	F1H1C104A008	C CHIP 16V 0.1UF	
C6028	F1H1C104A008	C CHIP 16V 0.1UF	
C6029	F1H1C104A008	C CHIP 16V 0.1UF	
C6030	F1H1C104A008	C CHIP 16V 0.1UF	
C6031	F1H1C104A008	C CHIP 16V 0.1UF	
C6032	F1H1C104A008	C CHIP 16V 0.1UF	
C6033	F1H1C104A008	C CHIP 16V 0.1UF	
C6034	F1H1C104A008	C CHIP 16V 0.1UF	
C6035	F1H1H101A230	C CHIP 50V 100PF	
C6036	F1H1H180A230	C CHIP 50V 18PF	
C6037	F1H1C104A008	C CHIP 16V 0.1UF	
C6038	F1H1H180A230	C CHIP 50V 18PF	
C6039	EEE0JA101SP	ELECTROLYTIC 6.3V 100UF	
C6041	F1H1C104A008	C CHIP 16V 0.1UF	
C6042	F1J1A1050004	C CHIP 10V 1UF	
C6043	F1H1C104A008	C CHIP 16V 0.1UF	
C6044	F1H1C104A008	C CHIP 16V 0.1UF	
C6045	EEE1CA100SR	ELECTROLYTIC 16V 10UF	
C6046	F1H1C104A041	C CHIP 16V 0.1UF	
C6047	F1H1C104A008	C CHIP 16V 0.1UF	
C6048	F1H1C104A008	C CHIP 16V 0.1UF	
C6049	F1H1C104A008	C CHIP 16V 0.1UF	
C6050	F1H1E103A029	C CHIP 25V 0.01UF	
C6051	F1H1C104A041	C CHIP 16V 0.1UF	
C6053	F1H1C104A041	C CHIP 16V 0.1UF	
C6074	F1H1C104A041	C CHIP 16V 0.1UF	
C6076	F1H1H101A230	C CHIP 50V 100PF	
C6078	F1H1C104A008	C CHIP 16V 0.1UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L3401	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3402	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3403	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3404	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3405	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3406	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3407	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3408	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3409	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3410	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3411	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4101	ELJFA101KFB	COIL CHIP 100UH	
L5001	J0JHC0000018	COIL CHIP 42UH	
L5002	J0JHC0000018	COIL CHIP 42UH	
L5003	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5004	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5005	G1C2R2JA0041	COIL CHIP 2.2UH	
L5006	G1C100JA0041	COIL CHIP 10UH	
L5007	G1C100JA0041	COIL CHIP 10UH	
L5008	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5009	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5010	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5102	J0JHC0000018	COIL CHIP 42UH	
L5104	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5105	G1C100JA0041	COIL CHIP 10UH	
L5106	G1C1R0JA0041	COIL CHIP 1UH	
L5107	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5108	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5303	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5304	J0JHC0000018	COIL CHIP 42UH	
L5305	G1C100JA0041	COIL CHIP 10UH	
L5307	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5308	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L5309	J0JHC0000018	COIL CHIP 42UH	
L5311	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5312	J0JHC0000018	COIL CHIP 42UH	
L5313	J0JHC0000018	COIL CHIP 42UH	
L5314	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L5315	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L5316	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L5317	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L5527	ELJFA330KFB	COIL CHIP 33UH	
L5528	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5701	J0JHC0000018	COIL CHIP 42UH	
L5702	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5703	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5704	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5705	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5711	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L5712	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L5713	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L5801	J0JHC0000018	COIL CHIP 42UH	
L5802	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5803	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L5807	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L5808	J0JHC0000018	COIL CHIP 42UH	
L5809	J0JHC0000018	COIL CHIP 42UH	
L5810	ELJFA330KFB	COIL CHIP 33UH	
L5811	ELJFA330KFB	COIL CHIP 33UH	
L5812	J0JHC0000018	COIL CHIP 42UH	
L6001	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6004	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L6005	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6006	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6008	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6011	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L6031	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

## CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X5101	H0J202500011	CRYSTAL OSCILLATOR	
X5702	H1Z7565B0001	CRYSTAL OSCILLATOR	
X5801	H0J283500016	CRYSTAL OSCILLATOR	
X6001	H0J327200115	CRYSTAL OSCILLATOR	
X6002	H2D400400012	CRYSTAL OSCILLATOR	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P3401	K1KA65B00003	CONNECTOR 65P	
P5301	K1KBB0A00006	CONNECTOR 110P	
P5701	K1KA20B00153	CONNECTOR 20P	
P6005	K1KA07AA0150	CONNECTOR 7P	
P6008	K1KA05BA0047	CONNECTOR 5P	

## JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK4101	K2HA204B0132	AUDIO JACK SOCKET	
JK5801	K1FA119E0001	HDNI JACK SOKET	

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
701	LSSC0771	MAIN SHIELD CASE TOP,STEEL	
702	LSSC0772	MAIN SHIELD CASE BOTTOM,STEEL	
705	LSMF0319	SHEET	
714	VMTS0035	CUSHION,RUBBER	

## 15.5.2. MAIN CHILD C.B.A.

## INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC5001	C0DBFFD00005	IC, LIENAR *See Schematic Diagram & Circuit Board Layout Notes	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C5073	ECJ1VB1H471K	C CHIP 50V 470PF *See Schematic Diagram & Circuit Board Layout Notes	
C5180	FIJ0J2250003	C CHIP 6.3V 2.2UF *See Schematic Diagram & Circuit Board Layout Notes	
C5181	FIH1A105A019	C CHIP 10V 1UF *See Schematic Diagram & Circuit Board Layout Notes	

## 15.5.3. BASE C.B.A.

## INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC1101	C0CBCDD00004	IC, LINEAR	
IC1103	C0DBAZH00013	IC, LINEAR	
IC1105	C0DBAZH00012	IC, LINEAR	
IC1106	C0DBAZH00012	IC, LINEAR	
IC3001	CIAB00001991	IC, LINEAR	
IC4001	COABBB000256	IC, LINEAR	
IC4002	COJBAR000344	IC, CMOS STANDARD LOGIC	E.S.D.
IC4003	COJBAR000344	IC, CMOS STANDARD LOGIC	E.S.D.
IC4004	COJBAR000344	IC, CMOS STANDARD LOGIC	E.S.D.
IC4005	COABBB000256	IC, LINEAR	
IC4201	C1BB00000772	IC, LINEAR	
IC4501	C1BA00000440	IC, LINEAR	
IC4502	COBBBA000076	IC, LINEAR	

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q1101	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1101			
Q1102	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1102			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q1102			
Q1103	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1103			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q1103			
Q1104	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1104			
Q1105	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q1105			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q1105			
Q1106	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1106			
Q1107	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1107			
Q1108	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1108			
Q1109	2SB1218ASL	TRANSISTOR SI PNP CHIP	
Q1110	2SB1218ASL	TRANSISTOR SI PNP CHIP	
Q1111	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1111			
Q1112	B1DHDC000018	TRANSISTOR FET CHIP	
Q1113	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1113			
Q1114	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q1114			
Q3001	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3001			

Ref. No.	Part No.	Part Name & Description	Remarks
Q3002	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3002			
Q3003	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3003			
Q3004	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3004			
Q3005	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3005			
Q3006	2SB1218AHL	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3006			
Q3007	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3007			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q3007			
Q3008	2SD132800L	TRANSISTOR SI NPN CHIP	
Q3009	2SD132800L	TRANSISTOR SI NPN CHIP	
Q3201	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3201			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q3201			
Q3202	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3202			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q3202			
Q3203	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3203			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q3203			
Q3204	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q3204			
or	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q3204			
Q3205	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3206	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3207	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3208	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3209	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3210	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3211	2SC563200L	TRANSISTOR SI NPN CHIP	
Q3212	2SC563200L	TRANSISTOR SI NPN CHIP	
Q4001	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or	BlADCC000004	TRANSISTOR SI PNP CHIP	
Q4001			
or	BlADCF000001	TRANSISTOR SI PNP CHIP	
Q4001			
or	BlADCF000077	TRANSISTOR SI PNP CHIP	
Q4001			
Q4002	2SD0601ASL	TRANSISTOR SI NPN CHIP	
Q4502	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or	BlADCC000004	TRANSISTOR SI PNP CHIP	
Q4502			
or	BlADCF000001	TRANSISTOR SI PNP CHIP	
Q4502			
or	BlADCF000077	TRANSISTOR SI PNP CHIP	
Q4502			

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D1101	MA2J111008	DIODE SI CHIP	
or	B0ACCK000005	DIODE SI CHIP	
D1101			
or	MA2J11100L	DIODE SI CHIP	
D1101			
D1102	MA2J111008	DIODE SI CHIP	
or	B0ACCK000005	DIODE SI CHIP	
D1102			

Ref. No.	Part No.	Part Name & Description	Remarks
or D1102	MA2J11100L	DIODE SI CHIP	
D1103	MA2J11300L	DIODE SI CHIP	
D1105	MA2J11300L	DIODE SI CHIP	
D1106	MA2J11300L	DIODE SI CHIP	
D1107	B0JCME000041	DIODE SI CHIP	
D1111	MAZ80910ML	DIODE ZENER CHIP 9.1V	
D1112	MA2J111008	DIODE SI CHIP	
or D1112	B0ACCK000005	DIODE SI CHIP	
or D1112	MA2J11100L	DIODE SI CHIP	
D1113	MAZ80680ML	DIODE ZENER CHIP 6.8V	
D1114	MA2J111008	DIODE SI CHIP	
or D1114	B0ACCK000005	DIODE SI CHIP	
or D1114	MA2J11100L	DIODE SI CHIP	
D1115	MA2J111008	DIODE SI CHIP	
or D1115	B0ACCK000005	DIODE SI CHIP	
or D1115	MA2J11100L	DIODE SI CHIP	
D1116	MAZ80330HL	DIODE ZENER CHIP 3.3V	
D1117	MA2J111008	DIODE SI CHIP	
or D1117	B0ACCK000005	DIODE SI CHIP	
or D1117	MA2J11100L	DIODE SI CHIP	
D1118	MA2J111008	DIODE SI CHIP	
or D1118	B0ACCK000005	DIODE SI CHIP	
or D1118	MA2J11100L	DIODE SI CHIP	
D1119	MAZ80330HL	DIODE ZENER CHIP 3.3V	
D1120	MA2J111008	DIODE SI CHIP	
or D1120	B0ACCK000005	DIODE SI CHIP	
or D1120	MA2J11100L	DIODE SI CHIP	
D1121	MA2J111008	DIODE SI CHIP	
or D1121	B0ACCK000005	DIODE SI CHIP	
or D1121	MA2J11100L	DIODE SI CHIP	
D1123	MA2J111008	DIODE SI CHIP	
or D1123	B0ACCK000005	DIODE SI CHIP	
or D1123	MA2J11100L	DIODE SI CHIP	
D1124	MA2J111008	DIODE SI CHIP	
or D1124	B0ACCK000005	DIODE SI CHIP	
or D1124	MA2J11100L	DIODE SI CHIP	
D1125	B0HAMM000105	DIODE SI	
D1126	B0HAMM000105	DIODE SI	
D1127	MAZ80510ML	DIODE ZENER CHIP 5.1V	
D1128	MA2J72900L	DIODE SI CHIP	
D1129	MA2J111008	DIODE SI CHIP	
or D1129	B0ACCK000005	DIODE SI CHIP	
or D1129	MA2J11100L	DIODE SI CHIP	
D1130	MA2J111008	DIODE SI CHIP	
or D1130	B0ACCK000005	DIODE SI CHIP	
or D1130	MA2J11100L	DIODE SI CHIP	
D1131	MA2J111008	DIODE SI CHIP	
or D1131	B0ACCK000005	DIODE SI CHIP	
or D1131	MA2J11100L	DIODE SI CHIP	
D1132	MA2J111008	DIODE SI CHIP	
or D1132	B0ACCK000005	DIODE SI CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
or D1132	MA2J11100L	DIODE SI CHIP	
D1133	MA2J111008	DIODE SI CHIP	
or D1133	B0ACCK000005	DIODE SI CHIP	
or D1133	MA2J11100L	DIODE SI CHIP	
D1134	MAZ80510ML	DIODE ZENER CHIP 5.1V	
D3016	MA2J111008	DIODE SI CHIP	
or D3016	B0ACCK000005	DIODE SI CHIP	
or D3016	MA2J11100L	DIODE SI CHIP	
D3018	MA2J72900L	DIODE SI CHIP	
D4505	MAZ42700MF	DIODE ZENER 27V	
D4506	MAZ81500ML	DIODE ZENER CHIP 15V	
D4507	MAZ81500ML	DIODE ZENER CHIP 15V	
D4508	MA2J111008	DIODE SI CHIP	
or D4508	B0ACCK000005	DIODE SI CHIP	
or D4508	MA2J11100L	DIODE SI CHIP	
D4509	MA2J111008	DIODE SI CHIP	
or D4509	B0ACCK000005	DIODE SI CHIP	
or D4509	MA2J11100L	DIODE SI CHIP	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R1101	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1102	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1103	ERJ6GEYJ0R00V	MGF CHIP 1/10W 0	
R1104	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1105	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1106	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1107	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1108	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1109	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1110	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1111	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1112	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1113	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1114	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R1115	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R1121	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1122	ERJ6GEYJ105V	MGF CHIP 1/10W 1M	
R1125	ERJ6GEYJ0R00V	MGF CHIP 1/10W 0	
R1126	D0HDI84ZA002	MGF CHIP 1/10W 180K	
R1127	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1128	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1129	ERJ6GEYJ470V	MGF CHIP 1/10W 47	
R1130	ERJ6GEYJ334V	MGF CHIP 1/10W 330K	
R1131	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R1132	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1133	ERJ6GEYJ334V	MGF CHIP 1/10W 330K	
R1134	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1135	ERJ6GEYJ0R00V	MGF CHIP 1/10W 0	
R1136	D0HDI84ZA002	MGF CHIP 1/10W 180K	
R1137	ERJ6GEYJ0R00V	MGF CHIP 1/10W 0	
R1138	D0HDI84ZA002	MGF CHIP 1/10W 180K	
R1139	ERJ6GEYJ470V	MGF CHIP 1/10W 47	
R1140	ERJ6GEYJ470V	MGF CHIP 1/10W 47	
R1141	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R1142	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R1143	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R1144	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R1145	ERJ12YJ100H	MGF CHIP 1/2W 10	
R1146	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1147	ERJ12YJ100H	MGF CHIP 1/2W 10	
R1148	ERJ12YJ100H	MGF CHIP 1/2W 10	
R1149	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1150	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1152	ERX1SZJR10E	METAL FILM 1W 0.1	



Ref. No.	Part No.	Part Name & Description	Remarks
R1153	ERX1SZJR10E	METAL FILM 1W 0.1	
R1156	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1157	ERX1SZJR10E	METAL FILM 1W 0.1	
R1158	ERX1SZJR10E	METAL FILM 1W 0.1	
R1162	ERX1SZJR10E	METAL FILM 1W 0.1	
R1163	ERX1SZJR10E	METAL FILM 1W 0.1	
R1165	DOHD103ZA002	MGF CHIP 1/10W 10K	
R1167	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1168	DOHD271ZA002	MGF CHIP 1/10W 270	
R1169	DOHD222ZA002	MGF CHIP 1/10W 2.2K	
R1170	DOHD222ZA002	MGF CHIP 1/10W 2.2K	
R1171	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1175	DOHD103ZA002	MGF CHIP 1/10W 10K	
R1176	DOHD103ZA002	MGF CHIP 1/10W 10K	
R1177	DOHD391ZA002	MGF CHIP 1/10W 390	
R1178	DOHD220ZA006	MGF CHIP 1/10W 22	
R1179	DOHD102ZA002	MGF CHIP 1/10W 1K	
R1180	ERJ6GEYOR00V	MGF CHIP 1/10W 0	
R1181	DOHD330ZA006	MGF CHIP 1/10W 33	
R1182	DOHD102ZA002	MGF CHIP 1/10W 1K	
R1183	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R1184	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1185	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1186	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R1187	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1188	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1189	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1190	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R1191	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1194	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1196	ERDS2TJ122T	CARBON 1/4W 1.2K	
R1197	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R1198	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3001	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3002	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3003	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3004	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3005	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3006	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R3010	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3011	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3013	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3014	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3016	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3017	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R3019	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3020	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3021	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3022	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3023	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3024	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3025	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3026	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3027	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3028	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3029	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3030	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3031	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3032	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3033	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3034	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3035	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3036	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3037	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3038	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3039	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3040	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3041	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3042	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3043	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3044	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3046	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3047	ERJ3GEYJ221V	MGF CHIP 1/16W 220	

Ref. No.	Part No.	Part Name & Description	Remarks
R3048	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3049	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3050	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3051	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3052	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3053	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3054	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3055	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3204	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R3205	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R3206	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R3207	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3208	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3209	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3210	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3211	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3212	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3213	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3214	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3215	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3216	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3217	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3218	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3219	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3220	ERA3YED561V	MGF CHIP 1/16W 560	
R3221	ERA3YED681V	MGF CHIP 1/16W 680	
R3222	ERA3YED331V	MGF CHIP 1/16W 330	
R3223	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3224	ERA3YED911V	MGF CHIP 1/16W 910	
R3225	ERA3YED471V	MGF CHIP 1/16W 470	
R3226	ERA3YED242V	MGF CHIP 1/16W 2.4K	
R3227	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3228	ERA3YED561V	MGF CHIP 1/16W 560	
R3229	ERA3YED151V	MGF CHIP 1/16W 150	
R3230	ERA3YED821V	MGF CHIP 1/16W 820	
R3231	ERA3YED301V	MGF CHIP 1/16W 300	
R3232	ERA3YED561V	MGF CHIP 1/16W 560	
R3233	ERA3YED301V	MGF CHIP 1/16W 300	
R3234	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R3235	ERA3YED301V	MGF CHIP 1/16W 300	
R3236	ERA3YED561V	MGF CHIP 1/16W 560	
R3240	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3241	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3242	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4001	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4002	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4003	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4004	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4005	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4006	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4007	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4008	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4009	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4010	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4011	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4012	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4013	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4014	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4015	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4016	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4018	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4019	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4020	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4021	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4022	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4023	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4024	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4025	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4026	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4027	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4028	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4029	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R4030	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4031	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4032	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4033	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4034	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4036	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4038	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4039	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4040	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4041	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4042	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4043	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4044	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4045	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4046	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4047	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4048	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4049	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4205	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4206	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4207	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R4208	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R4209	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4210	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4501	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4502	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R4503	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4504	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4505	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R4506	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R4507	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4508	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4509	ERDS2TJ332T	CARBON 1/4W 3.3K	
R4511	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4512	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4513	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4515	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4516	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4517	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4519	ERJ8GEYJ100V	MGF CHIP 1/8W 10	
R4521	ERJ8GEYJ100V	MGF CHIP 1/8W 10	
R4522	ERJ1TYJ220U	MGF CHIP 1W 22	
R4523	ERJ1TYJ220U	MGF CHIP 1W 22	
R4524	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4528	ERDS2TJ392	CARBON 1/4W 3.9K	
R4530	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4531	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4532	ERJ3GEYJ151V	MGF CHIP 1/16W 150	
R4533	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4534	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4535	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4550	ERJ6GEYJ561V	MGF CHIP 1/10W 560	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1101	FLJ1C1050011	C CHIP 16V 1UF	
C1102	FLJ1C2240007	C CHIP 16V 0.22UF	
C1103	F2A0J3300011	ELECTROLYTIC 6.3V 33UF	
C1104	FLJ1A1050004	C CHIP 10V 1UF	
C1105	FLJ1C2240007	C CHIP 16V 0.22UF	
C1106	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1107	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1108	F1K1C2250005	C CHIP 16V 2.2UF	
C1109	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1110	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1111	F1K1C2250005	C CHIP 16V 2.2UF	
C1113	F1K1C2250005	C CHIP 16V 2.2UF	
C1116	F1K1C2250005	C CHIP 16V 2.2UF	
C1117	F1K1C2250005	C CHIP 16V 2.2UF	
C1119	F1K1C2250005	C CHIP 16V 2.2UF	
C1120	F1K1C2250005	C CHIP 16V 2.2UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C1121	F1K1C2250005	C CHIP 16V 2.2UF	
C1122	F1K1C2250005	C CHIP 16V 2.2UF	
C1124	FLJ1C1050011	C CHIP 16V 1UF	
C1125	FLJ1H102A623	C CHIP 50V 1000PF	
C1126	FLJ1H103A702	C CHIP 50V 0.01UF	
C1130	FLJ1E1040007	C CHIP 25V 0.1UF	
C1131	ECJ2VC1H471J	C CHIP 50V 470PF	
C1132	FLJ1H102A623	C CHIP 50V 1000PF	
C1133	FLJ1C1050011	C CHIP 16V 1UF	
C1134	FLJ1H102A623	C CHIP 50V 1000PF	
C1135	FLJ1C1050011	C CHIP 16V 1UF	
C1136	FLJ1H102A623	C CHIP 50V 1000PF	
C1139	FLJ1H103A702	C CHIP 50V 0.01UF	
C1140	FLJ1H103A702	C CHIP 50V 0.01UF	
C1144	FLJ1H103A702	C CHIP 50V 0.01UF	
C1145	FLJ1H103A702	C CHIP 50V 0.01UF	
C1146	FLJ1E1040007	C CHIP 25V 0.1UF	
C1147	FLJ1E1040007	C CHIP 25V 0.1UF	
C1148	ECJ2VC1H471J	C CHIP 50V 470PF	
C1149	FLJ1H102A623	C CHIP 50V 1000PF	
C1150	ECJ2VC1H471J	C CHIP 50V 470PF	
C1151	FLJ1H102A623	C CHIP 50V 1000PF	
C1153	FLJ1E1040007	C CHIP 25V 0.1UF	
C1156	FLJ1H103A702	C CHIP 50V 0.01UF	
C1157	FLJ1H103A702	C CHIP 50V 0.01UF	
C1158	FLJ1E1040007	C CHIP 25V 0.1UF	
C1159	FLJ1E1040007	C CHIP 25V 0.1UF	
C1160	FLJ1H102A623	C CHIP 50V 1000PF	
C1163	FLJ1H102A623	C CHIP 50V 1000PF	
C1164	FLJ1H102A623	C CHIP 50V 1000PF	
C1165	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1169	EEAGA1H1R0H	ELECTROLYTIC 50V 1UF	
C1171	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1173	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1174	FLJ1C2240007	C CHIP 16V 0.22UF	
C1175	FLJ1C2240007	C CHIP 16V 0.22UF	
C1176	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1177	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1178	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1179	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1181	FLJ1C2240007	C CHIP 16V 0.22UF	
C1182	FLJ1E1040007	C CHIP 25V 0.1UF	
C1183	FLJ1H103A702	C CHIP 50V 0.01UF	
C1184	FLJ1E224A081	C CHIP 25V 0.22UF	
C1185	ECJ2VB1E103K	C CHIP 25V 0.01UF	
C3001	F1H1H100A735	C CHIP 50V 10PF	
C3002	F1H1H100A735	C CHIP 50V 10PF	
C3003	F1H1H100A735	C CHIP 50V 10PF	
C3004	F1H1H100A735	C CHIP 50V 10PF	
C3005	F1H1H100A735	C CHIP 50V 10PF	
C3006	F1H1C104A008	C CHIP 16V 0.1UF	
C3007	F1H1C104A008	C CHIP 16V 0.1UF	
C3008	F1H1A105A028	C CHIP 10V 1UF	
C3009	F1H1A105A028	C CHIP 10V 1UF	
C3011	F1H1A105A028	C CHIP 10V 1UF	
C3012	F1H1H103A748	C CHIP 50V 0.01UF	
C3013	F2A1C1010047	ELECTROLYTIC 16V 100UF	
C3014	F1H1H103A748	C CHIP 50V 0.01UF	
C3015	F1H1A105A028	C CHIP 10V 1UF	
C3017	F1H1A105A028	C CHIP 10V 1UF	
C3018	F1H1H103A748	C CHIP 50V 0.01UF	
C3019	F1H1C104A008	C CHIP 16V 0.1UF	
C3020	F1H1C104A008	C CHIP 16V 0.1UF	
C3021	F1H1A105A028	C CHIP 10V 1UF	
C3023	F1H1A105A028	C CHIP 10V 1UF	
C3024	F1H1C104A008	C CHIP 16V 0.1UF	
C3025	F1H1H103A748	C CHIP 50V 0.01UF	
C3027	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C3030	F2A0J1020034	ELECTROLYTIC 6.3V 1000UF	
C3031	F1H1A105A028	C CHIP 10V 1UF	
C3032	F1H1C104A008	C CHIP 16V 0.1UF	
C3033	F1H1A105A028	C CHIP 10V 1UF	
C3034	F1H1A105A028	C CHIP 10V 1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3035	F1H1A105A028	C CHIP 10V 1UF	
C3036	F1H1A105A028	C CHIP 10V 1UF	
C3037	F1H1A105A028	C CHIP 10V 1UF	
C3038	F1H1A105A028	C CHIP 10V 1UF	
C3039	F1H1A105A028	C CHIP 10V 1UF	
C3040	F1H1A105A028	C CHIP 10V 1UF	
C3041	F1H1A105A028	C CHIP 10V 1UF	
C3042	F1H1A105A028	C CHIP 10V 1UF	
C3043	F1H1A105A028	C CHIP 10V 1UF	
C3044	F1H1A105A028	C CHIP 10V 1UF	
C3051	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C3052	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C3201	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C3202	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C3203	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C3204	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C3205	F1H1C104A008	C CHIP 16V 0.1UF	
C3207	F1H1C104A008	C CHIP 16V 0.1UF	
C3208	F1H1H2R00008	C CHIP 50V 2PF	
C3209	F1H1H2R00008	C CHIP 50V 2PF	
C3210	ECJ1VC1H180J	C CHIP 50V 18PF	
C3211	F1H1H100A735	C CHIP 50V 10PF	
C3212	ECJ1VC1H180J	C CHIP 50V 18PF	
C3213	F1H1E104A030	C CHIP 25V 0.1UF	
C3214	F1H1E104A030	C CHIP 25V 0.1UF	
C3215	F1H1E104A030	C CHIP 25V 0.1UF	
C3216	F2A1C1010047	ELECTROLYTIC 16V 100UF	
C4001	F1H1C104A008	C CHIP 16V 0.1UF	
C4002	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C4003	F1H1A105A028	C CHIP 10V 1UF	
C4004	F1H1A105A028	C CHIP 10V 1UF	
C4005	F1H1A105A028	C CHIP 10V 1UF	
C4006	F1H1A105A028	C CHIP 10V 1UF	
C4007	F1H1A105A028	C CHIP 10V 1UF	
C4008	F1H1A105A028	C CHIP 10V 1UF	
C4009	F1H1A105A028	C CHIP 10V 1UF	
C4010	F1H1A105A028	C CHIP 10V 1UF	
C4011	F1H1A105A028	C CHIP 10V 1UF	
C4012	F1H1A105A028	C CHIP 10V 1UF	
C4013	F1H1A105A028	C CHIP 10V 1UF	
C4014	F1H1A105A028	C CHIP 10V 1UF	
C4015	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4016	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C4017	F1H1A105A028	C CHIP 10V 1UF	
C4018	F1H1A105A028	C CHIP 10V 1UF	
C4019	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C4201	F2A1C1010047	ELECTROLYTIC 16V 100UF	
C4202	F1H1H103A220	C CHIP 50V 0.01UF	
C4203	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4204	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4205	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4206	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4207	F1H1C104A041	C CHIP 16V 0.1UF	
C4208	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4209	F1H1A105A028	C CHIP 10V 1UF	
C4210	F1H1C104A041	C CHIP 16V 0.1UF	
C4211	F1H1C104A041	C CHIP 16V 0.1UF	
C4212	F1H1C104A041	C CHIP 16V 0.1UF	
C4213	F1H1H472A219	C CHIP 50V 4700PF	
C4214	F1H1H472A219	C CHIP 50V 4700PF	
C4215	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C4216	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C4217	F1H1H332A219	C CHIP 50V 3300PF	
C4218	F1H1H332A219	C CHIP 50V 3300PF	
C4219	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4220	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4501	F1J1H104A538	C CHIP 50V 0.1UF	
C4502	F1J1H104A538	C CHIP 50V 0.1UF	
C4503	F2A1V1020056	ELECTROLYTIC 35V 1000UF	
C4504	F2A1V1020056	ELECTROLYTIC 35V 1000UF	
C4505	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4512	ECJ2VB1H153K	C CHIP 50V 0.015UF	
C4513	ECJ2VB1H153K	C CHIP 50V 0.015UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C4514	F1J1H104A538	C CHIP 50V 0.1UF	
C4515	F1J1H104A538	C CHIP 50V 0.1UF	
C4516	F1J1H104A538	C CHIP 50V 0.1UF	
C4519	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4520	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4521	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4522	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4524	F1K1E105A029	C CHIP 25V 1UF	
C4525	F1K1E105A029	C CHIP 25V 1UF	
C4526	F1J1H104A538	C CHIP 50V 0.1UF	
C4527	F1K1H1050002	C CHIP 50V 1UF	
C4528	ECJ1VC1H221J	C CHIP 50V 220PF	
C4529	ECJ1VC1H221J	C CHIP 50V 220PF	
C4530	ECJ1VC1H221J	C CHIP 50V 220PF	
C4531	ECJ1VC1H221J	C CHIP 50V 220PF	
C4532	F1K1H474A091	C CHIP 50V 0.47UF	
C4533	F1K1H474A091	C CHIP 50V 0.47UF	
C4534	F1K1H2240002	C CHIP 50V 0.22UF	
C4535	F1K1H2240002	C CHIP 50V 0.22UF	
C4536	F1K1H1050002	C CHIP 50V 1UF	
C4537	ECJ1VC1H221J	C CHIP 50V 220PF	
C4538	F1K1H1050002	C CHIP 50V 1UF	
C4539	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4540	F1H1H473A748	C CHIP 50V 0.047UF	
C4541	F1H1H473A748	C CHIP 50V 0.047UF	
C4542	ECJ1VB1H182K	C CHIP 50V 0.0018UF	
C4549	F1H1H103A219	C CHIP 50V 0.01UF	
C4550	F2A1C1010047	ELECTROLYTIC 16V 100UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L1101	G0A100YA0002	COIL 10UH	
L1102	G0A100YA0002	COIL 10UH	
L1103	G0A100YA0002	COIL 10UH	
L1104	J0JHB0000021	FILTER	
L1105	G0A100YA0002	COIL 10UH	
L1107	J0JHB0000021	FILTER	
L1108	J0JHB0000021	FILTER	
L1109	G0A100ZA0030	COIL 10UH	
L1111	G0A100ZA0030	COIL 10UH	
L1112	G0A100ZA0030	COIL 10UH	
L1113	G0A100YA0002	COIL 10UH	
L1114	G0A100YA0002	COIL 10UH	
L1115	G0A100YA0002	COIL 10UH	
L1117	G0A100YA0002	COIL 10UH	
L3001	G0C100JA0055	COIL 10UH	
L4001	G0C101JA0055	COIL 100UH	
L4201	G0C101JA0055	COIL 100UH	
L4501	J0JJC0000003	COIL	
L4502	J0JJC0000003	COIL	
L4503	G0A330ZA0030	COIL 33UH	
L4504	G0A330ZA0030	COIL 33UH	
L4505	G0A100YA0002	COIL 10UH	
L4506	G0A100YA0002	COIL 10UH	
L4515	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
L4516	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
L4517	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
L4518	ERJ8GEY0R00V	MGF CHIP 1/8W 0	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P1101	K1KB30A00160	CONNECTOR 30P	
P1102	LSJA0542	CONNECTOR CABLE W/PLUG	
P3001	LSJA0537	CONNECTOR CABLE W/PLUG	
P3002	K1KB50A00135	CONNECTOR 50P	
P3003	K1KB65A00002	CONNECTOR 65P	
P3004	LSJA0538	CONNECTOR CABLE W/PLUG	
P3007	LSJA0548	CONNECTOR CABLE W/PLUG	
P3008	LSJA0540	CONNECTOR CABLE W/PLUG	
P4503	LSJA0541	CONNECTOR CABLE W/PLUG	

## FUSE &amp; PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PR1101	D4FA3R50A002	IC PROTECTOR 3.5A	△
PR1102	D4FA5R00A002	IC PROTECTOR 5A	△
PR1103	D4FA3R50A002	IC PROTECTOR 3.5A	△

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
483	XYN3+K10FJ	SCREW W/WASHER,STEEL	
750	VZFS0006	CLAMPER	
751	J0KA00000044	FERITE CORE	
759	LSSC0768	HEAT SINK	

## 15.5.4. POWER C.B.A.

## INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC1001	C5HABZZ00131	IC, HYBRID	△ E.S.D.
IC1002	CNC1S101R1KT	IC, LINEAR	△
or IC1002	CNC1S101S1KT	IC, LINEAR	△
IC1003	C0DAEMZ00007	IC, LINEAR	

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q801	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q801	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1001	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1001	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1002	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1002	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1003	B1BDCG000014	TRANSISTOR SI PNP CHIP	
or Q1003	B1BDCG000015	TRANSISTOR SI PNP CHIP	
Q1004	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1004	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1005	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1006	B1BDCG000014	TRANSISTOR SI PNP CHIP	
or Q1006	B1BDCG000015	TRANSISTOR SI PNP CHIP	

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D801	ERZV10V361CS	SURGE ABSORBER	△
D803	MA2Q73600L	DIODE SI CHIP	
or D803	B0JCMC000002	DIODE SI CHIP	
D804	MA2Q73600L	DIODE SI CHIP	
or D804	B0JCMC000002	DIODE SI CHIP	
D805	MA2Q73600L	DIODE SI CHIP	
or D805	B0JCMC000002	DIODE SI CHIP	
D806	MA2Q73600L	DIODE SI CHIP	
or D806	B0JCMC000002	DIODE SI CHIP	
D807	B0HAGP000012	DIODE SI	
or D807	B0HAJL000001	DIODE SI	
D808	B0HAGP000012	DIODE SI	
or D808	B0HAJL000001	DIODE SI	
D809	MA2C16700E	DIODE SI	
D810	MA2C16700E	DIODE SI	
D811	MA2Q73600L	DIODE SI CHIP	
or D811	B0JCMC000002	DIODE SI CHIP	
D812	MA2Q73600L	DIODE SI CHIP	
or D812	B0JCMC000002	DIODE SI CHIP	
D813	MAZ40510MF	DIODE ZENER 5.1V	
D1001	MAZ41500MF	DIODE ZENER 15V	
D1002	B0EBNT000008	DIODE SI	△
D1003	MAZ41500MF	DIODE ZENER 15V	
D1005	B0HAMM000083	DIODE SI	

Ref. No.	Part No.	Part Name & Description	Remarks
D1006	MAZ4100NHF	DIODE ZENER 10V	
D1007	B0HAMM000083	DIODE SI	
D1008	MAZ40620MF	DIODE ZENER 6.2V	
D1009	B0HAHP000014	DIODE SI	
or D1009	B0HAJP000007	DIODE SI	
or D1009	B0HAMP000061	DIODE SI	
D1010	B0HAHP000014	DIODE SI	
D1011	B0HAMM000083	DIODE SI	
D1012	B0HAMM000083	DIODE SI	
D1013	B0HAHP000014	DIODE SI	
D1014	B0HAMM000083	DIODE SI	
D1015	B0HBRM000028	DIODE SI	
D1016	B0JBSG000030	DIODE SI	
D1017	B0HBRM000028	DIODE SI	
D1018	B0HAMR000063	DIODE SI	
or D1018	B0EALR000005	DIODE SI	
D1019	B0HAHP000014	DIODE SI	
D1020	MAZ73000BC	DIODE ZENER 300V	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R801	VRESC2TK825T	SOLID 1/2W 8.2M	△
R805	ERDS2TJ102	CARBON 1/4W 1K	
R806	ERDS2TJ102	CARBON 1/4W 1K	
R807	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R808	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R809	D1F5100E0002	W FLMPRF 5W 10	△
R810	ERDS1TJ271T	CARBON 1/2W 270	
R811	D1F5100E0002	W FLMPRF 5W 10	△
R812	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R813	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1001	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1002	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R1003	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1004	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1005	ERDS2TJ272	CARBON 1/4W 2.7K	
R1006	ERDS2TJ272	CARBON 1/4W 2.7K	
R1007	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1008	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R1009	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1010	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R1011	ERDS2TJ272	CARBON 1/4W 2.7K	
R1012	ERDS2TJ272	CARBON 1/4W 2.7K	
R1013	ERG2SJ104H	METAL OXIDE 2W 100K	
R1014	ERDS2TJ101	CARBON 1/4W 100	
R1015	ERX2SJR27P	METAL FILM 2W 0.27	
R1016	ERX2SJR22P	METAL FILM 2W 0.22	
R1017	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1018	ERG3SJ473H	METAL OXIDE 3W 47K	
R1019	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
R1020	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R1021	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1022	ERD25FJ3R3P	CARBON 1/4W 3.3	△
R1023	ERDS1TJ750T	CARBON 1/2W 75	
R1025	ERD25FJ100P	CARBON 1/4W 10	△
R1026	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1027	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R1028	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1029	ERDS1TJ122T	CARBON 1/2W 1.2K	
R1030	ERG1SJ182E	METAL OXIDE 1W 1.8K	
R1031	ERG1SJ182E	METAL OXIDE 1W 1.8K	
R1032	D0HD223ZA002	MGF CHIP 1/10W 22K	
R1033	D0HD472ZA002	MGF CHIP 1/10W 4.7K	
R1034	D0HD103ZA002	MGF CHIP 1/10W 10K	
R1035	ERG3SJ473H	METAL OXIDE 3W 47K	
R1036	ERG1SJ681E	METAL OXIDE 1W 680	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C802	ECQU2A474MLA	POLYESTER 250V 0.47UF	△

Ref. No.	Part No.	Part Name & Description	Remarks
C804	ECA1CHG102B	ELECTROLYTIC 16V 1000UF	
C805	ECA1EHG102B	ELECTROLYTIC 25V 1000UF	
C806	ECQU2A474MLA	POLYESTER 250V 0.47UF	△
C808	F1BAF102A087	CERAMIC 250V 1000UF	△
C809	F1BAF102A087	CERAMIC 250V 1000UF	△
C811	ECQU2A474MLA	POLYESTER 250V 0.47UF	△
C813	ECKATS472MF	CERAMIC 250V 4700PF	△
or C813	ECKETS472MF	CERAMIC 250V 4700PF	△
C814	FLJ1H103A702	C CHIP 50V 0.01UF	
C1001	ECQU2A823MLA	POLYESTER 250V 0.082UF	△
C1002	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1003	FLJ1E1040007	C CHIP 25V 0.1UF	
C1004	F1BAF102A087	CERAMIC 250V 1000UF	△
C1005	F2B2D8210021	ELECTROLYTIC 200V 820UF	△
C1006	F2A1E4710044	ELECTROLYTIC 25V 470UF	
C1007	FLJ1E1040007	C CHIP 25V 0.1UF	
C1008	FLJ1H102A623	C CHIP 50V 1000PF	
C1009	FLJ1H102A623	C CHIP 50V 1000PF	
C1010	F1B3D471A011	CERAMIC 2KV 470PF	
C1011	ECA1HHG010B	ELECTROLYTIC 50V 1UF	
C1012	FLJ1H1040003	C CHIP 50V 0.1UF	
C1013	FLJ1H103A702	C CHIP 50V 0.01UF	
C1014	ECKN3A221KBP	CERAMIC 1KV 220PF	
C1015	FLJ1H470A411	C CHIP 50V 47PF	
C1016	F2A1V1010029	ELECTROLYTIC 35V 100UF	
C1017	F2A1V1010029	ELECTROLYTIC 35V 100UF	
C1018	ECA2EHG4R7B	ELECTROLYTIC 25V 4.7UF	
C1019	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1025	F2A1V1020056	ELECTROLYTIC 35V 1000UF	
C1026	F2A1V1020056	ELECTROLYTIC 35V 1000UF	
C1028	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1029	F2A1C3920011	ELECTROLYTIC 16V 3900UF	
C1030	FLJ1C474A104	C CHIP 16V 0.47UF	
C1031	F2A1C3920011	ELECTROLYTIC 16V 3900UF	
C1032	F2A1E4710070	ELECTROLYTIC 25V 470UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L802	G0B332J00003	LINE FILTER	△
L803	J0HBJJ000030	FILTER FOR EMI/EMC	△
L1001	G0B452H00002	LINE FILTER	△
L1003	J0JKA0000015	COIL	
L1004	J0JHB0000021	FILTER	
L1005	J0JHB0000021	FILTER	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P804	K1KA02A00593	CONNECTOR 2P	
P807	LSJA0546	CONNECTOR CABLE W/PLUG	
P1001	LSJA0547	CONNECTOR CABLE W/PLUG	
P1006	K1KA30B00072	CONNECTOR 30P	

## FUSE &amp; PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F801	K5D632BNA005	FUSE 125V/250V 6.3A	△
F1001	K5D502BNA005	FUSE 125V/250V 5A	△
PR1001	D4FA1R000003	IC PROTECTOR 1A	△
PR1002	D4FA10R00002	IC PROTECTOR 10A	△
PR1003	D4FA7R00A002	IC PROTECTOR 7A	△
PR1004	D4FA7R00A002	IC PROTECTOR 7A	△
PR1005	D4FA10R00002	IC PROTECTOR 10A	△

## RELAY

Ref. No.	Part No.	Part Name & Description	Remarks
RL801	K6B1AGA00093	RELAY	△
RL802	K6B1AGA00093	RELAY	△

## TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T801	ETP28KBZA1QG	TRANSFORMER	△
T1001	ETS39AG455ND	TRANSFORMER	△

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
83	TMM5439-1	CLAMPER	
412	XNG3BFN	NUT, STEEL	
417	XYN3+K10FN	SCREW W/WASHER, STEEL	
721	EYF52BCY	FUSE HOLDER	
722	LSSC0724	HEAT SINK	
723	LSSC0767	HEAT SINK	
724	LSSC0766	HEAT SINK	
735	LSSC0630	HEAT SINK	

## 15.5.5. REAR JACK C.B.A.

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3501	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3502	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3503	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3504	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3505	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3506	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3507	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3508	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3509	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3510	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3511	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3512	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3513	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3514	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3515	ERJ3EKF75R0V	MGF CHIP 1/16W 75	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L3501	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3502	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3503	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3504	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3505	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3506	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3507	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3508	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3509	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3510	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3511	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3512	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3513	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3514	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3515	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P3501	K1KA50B00094	CONNECTOR 50P	

## JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK3501	K1U824A00001	S-JACK SOCKET	
JK3502	K2HA306A0028	AUDIO/VIDEO JACK SOCKET	
JK3503	K2HA510A0001	AUDIO/VIDEO JACK SOCKET	
JK3504	K2HA510A0001	AUDIO/VIDEO JACK SOCKET	
JK3505	K2HA510A0001	AUDIO/VIDEO JACK SOCKET	

## 15.5.6. FRONT JACK C.B.A.

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q3901	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3901	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3902	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3902	B1ABCF000020	TRANSISTOR SI NPN CHIP	

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D3901	B0BD6R200004	DIODE ZENER CHIP 6.2V	
D3902	B3AAA0000538	LIGHT EMITTING DIODE RED	
D3903	B3AAA0000538	LIGHT EMITTING DIODE RED	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3901	ERA3YHD750V	MGF CHIP 1/16W 75	
R3902	ERA3YHD750V	MGF CHIP 1/16W 75	
R3903	ERA3YHD750V	MGF CHIP 1/16W 75	
R3904	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3905	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3906	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3907	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3908	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3909	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3910	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3911	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3912	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3913	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3914	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C3901	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L3901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3902	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3903	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3904	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3905	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3906	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3907	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3908	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3909	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4801	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4802	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P3901	K1KA10BA0062	CONNECTOR 10P	
P3902	K1KA12BA0062	CONNECTOR 12P	
P3903	K1KA05BA0061	CONNECTOR 5P	

## JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK3901	K1FB115A0015	D-SUB MINI JACK SOCKET	
JK3902	K1U412A00008	AUDIO/VIDEO/S-VIDEO JACK SOCKET	

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
711	PNA4618M14VT	INFRARED RECEIVER UNIT	

## 15.5.7. CARD C.B.A.

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R9001	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9002	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9003	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9004	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9005	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9006	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9007	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9008	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9069	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9070	ERJ3GEYJ220V	MGF CHIP 1/16W 22	

Ref. No.	Part No.	Part Name & Description	Remarks
R9071	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9072	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9073	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9074	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9075	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9076	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9078	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C9016	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C9021	F1H1C104A008	C CHIP 16V 0.1UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L9003	J0JHC0000018	COIL CHIP 42UH	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P9003	K1KA12A00326	CONNECTOR 12P	
P9005	K1NA09E00060	SD UNIT	

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
479	XYE3+FJ8FN	SCREW W/WASHER,STEEL	
709	LSSC0776	CARD SHIELD CASE BOTTOM,STEEL	
710	LSSC0775	CARD SHIELD CASE TOP,STEEL	

## 15.5.8. BALLAST C.B.A. NR

## INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC1302	CNC1S101R1KT	IC, LINEAR	△
or IC1302	CNC1S101S1KT	IC, LINEAR	△
IC1303	CNC1S101R1KT	IC, LINEAR	△
or IC1303	CNC1S101S1KT	IC, LINEAR	△
IC1304	CNC1S101R1KT	IC, LINEAR	△
or IC1304	CNC1S101S1KT	IC, LINEAR	△

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q1301	2SB1219ARL	TRANSISTOR SI PNP CHIP	
Q1302	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1302	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1304	B1DEGQ000044	TRANSISTOR FET	
Q1305	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q1305	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1306	B1DEGQ000044	TRANSISTOR FET	
Q1307	B1DEGQ000044	TRANSISTOR FET	
Q1308	B1DEGQ000044	TRANSISTOR FET	
Q1309	B1DEGQ000044	TRANSISTOR FET	
Q1310	B1DFCQ000007	TRANSISTOR FET	

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D1302	B0EBNT000008	DIODE SI	△
D1303	B0ECKP000033	DIODE SI CHIP	
D1304	B0ECKP000033	DIODE SI CHIP	
D1305	MAZ727000C	DIODE ZENER 2.7V	
D1306	B0ECKP000033	DIODE SI CHIP	
D1307	MA2Q73600L	DIODE SI CHIP	
or D1307	B0JCMC000002	DIODE SI CHIP	
D1308	B0FABR000003	DIODE SI	
D1309	B0ECKP000033	DIODE SI CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
D1310	B0ECKP000033	DIODE SI CHIP	
D1311	MAZ727000C	DIODE ZENER 2.7V	
D1313	MAZ727000C	DIODE ZENER 2.7V	
D1315	B2ZAZ0000020	DIODE SI	
D1316	MA2J111008	DIODE SI CHIP	
or D1316	B0ACCK000005	DIODE SI CHIP	
or D1316	MA2J11100L	DIODE SI CHIP	
D1317	MA2J111008	DIODE SI CHIP	
or D1317	B0ACCK000005	DIODE SI CHIP	
or D1317	MA2J11100L	DIODE SI CHIP	
D1318	MAZ727000C	DIODE ZENER 2.7V	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R1301	ERDS1FJ474T	CARBON 1/2W 470K	△
R1306	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R1307	ERJ8GEYJ822V	MGF CHIP 1/8W 8.2K	
R1308	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1309	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R1310	ERJ12YJ753H	MGF CHIP 1/2W 75K	
R1311	ERJ12YJ753H	MGF CHIP 1/2W 75K	
R1312	ERJ12YJ753H	MGF CHIP 1/2W 75K	
R1313	ERJ12YJ753H	MGF CHIP 1/2W 75K	
R1314	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R1316	ERX2SJR47E	METAL FILM 2W 0.47	
R1317	ERX2SJR47E	METAL FILM 2W 0.47	
R1318	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1319	ERJ12YJ100H	MGF CHIP 1/2W 10	
R1320	ERJ12YJ101H	MGF CHIP 1/2W 100	
R1321	EVMAASA00B52	VARIABLE 500	
R1322	ERX2SJR33E	METAL FILM 2W 0.33	
R1323	ERX2SJR47E	METAL FILM 2W 0.47	
R1324	ERJ14YJ471H	MGF CHIP 1/4W 470	
R1325	ERJ14NF3902H	MGF CHIP 1/4W 39K	
R1326	ERJ14NF3902H	MGF CHIP 1/4W 39K	
R1328	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
R1329	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R1330	ERJ14YJ680H	MGF CHIP 1/4W 68	
R1331	ERJ14YJ680H	MGF CHIP 1/4W 68	
R1332	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1333	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1334	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1335	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1336	ERJ14YJ680H	MGF CHIP 1/4W 68	
R1337	ERJ14YJ680H	MGF CHIP 1/4W 68	
R1338	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1339	ERG3SJ123	METAL OXIDE 3W 12K	
R1340	ERG3SJ123	METAL OXIDE 3W 12K	
R1341	ERJ6GEYJ681V	MGF CHIP 1/10W 680	
R1342	ERJ14YJ222H	MGF CHIP 1/4W 2.2K	
R1343	ERJ6GEYJ681V	MGF CHIP 1/10W 680	
R1344	ERJ14YJ471H	MGF CHIP 1/4W 470	
R1345	ERG1SJ100E	METAL OXIDE 1W 10	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1301	ECQU2A474MLA	POLYESTER 250V 0.47UF	△
C1302	ECQU2A474MLA	POLYESTER 250V 0.47UF	△
C1303	FLJ1H103A702	C CHIP 50V 0.01UF	
C1304	FLJ1H222A623	C CHIP 50V 2200PF	
C1305	F2B2T1220001	ELECTROLYTIC 220V 1200UF	△
C1306	F2B2T1220001	ELECTROLYTIC 220V 1200UF	△
C1307	F1BAF102A087	CERAMIC 250V 1000PF	△
C1309	ECQE4104KF	POLYESTER 400V 0.1UF	
C1310	ECQE4104KF	POLYESTER 400V 0.1UF	
C1311	ECQE4125KF	POLYESTER 400V 1.2UF	
C1312	F1A3A271A028	CERAMIC 1KV 270PF	
C1316	ECQE4125KF	POLYESTER 400V 1.2UF	
C1317	ECEA1HGE220B	ELECTROLYTIC 50V 22UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C1319	F1K2J1030001	CERAMIC 630V 0.01UF	
C1320	F2A1E1210010	ELECTROLYTIC 25V 120UF	
C1321	F2A1E1210010	ELECTROLYTIC 25V 120UF	
C1322	F1K2J221A005	CERAMIC 630V 220PF	
C1323	F1K2J102A006	CERAMIC 630V 1000PF	
C1324	F1K2J102A006	CERAMIC 630V 1000PF	
C1325	F1K2J221A005	CERAMIC 630V 220PF	
C1326	F1J1H562A623	C CHIP 50V 5600PF	
C1327	F1J1H562A623	C CHIP 50V 5600PF	
C1328	F0C3C392A026	POLYESTER 1KV 3900PF	
C1329	F1J1H562A623	C CHIP 50V 5600PF	
C1330	F0CAH104A001	POLYESTER 450V 0.1UF	
C1331	ECJ2VB1E103K	C CHIP 25V 0.01UF	
C1332	ECJ2VB1E103K	C CHIP 25V 0.01UF	
C1333	F1A3A271A028	CERAMIC 1KV 270PF	
C1334	F1B3D222A010	CERAMIC 25V 2200PF	
C1335	F1A3A271A028	CERAMIC 1KV 270PF	
C1336	F1J1E1040007	C CHIP 25V 0.1UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L1301	ELF20N030A	LINE FILTER	△
L1302	J0JHB0000021	FILTER	
L1303	G0B100E00001	LINE FILTER	
L1304	J0JHB0000021	FILTER	
L1305	J0KA00000020	BEADS CORE	
L1306	G0A601J00011	COIL 600UH	
L1307	G0C470KA0030	COIL 47UH	
L1308	J0JHB0000021	FILTER	
L1309	J0JHB0000021	FILTER	
L1310	G0ZZ00002195	OTHER FIXED COILS, LEAD TYPE	
L1311	G0ZZ00002462	COIL	
L1312	J0JHB0000021	FILTER	
L1313	J0JHB0000021	FILTER	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P1301	K1KA05BA0034	CONNECTOR 5P	
P1302	K1KA02B00251	CONNECTOR 2P	
P1305	K1KA04BA0061	CONNECTOR 4P	
P1306	K1KA02B00230	CONNECTOR 2P	

## FUSE &amp; PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F1301	K5D502BNA005	FUSE 125V/250V 5A	△
F1302	K5C117BC0003	THERMAL FUSE TF117C 250V 2A	△

## TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T1301	EULSPJ004A	TRANSFORMER	△

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
83	TMM5439-1	CLAMPER	
411	XYE3+FF8FN	SCREW W/WASHER, STEEL	
412	XNG3BFN	NUT, STEEL	
417	XYN3+K10FN	SCREW W/WASHER, STEEL	
447	XYN3+K8FN	SCREW W/WASHER, STEEL	
452	XTV3+8FFN	TAPPING SCREW, STEEL	
463	XYN3+F12FN	SCREW W/WASHER, STEEL	
721	EYF52BCY	FUSE HOLDER	
731	LSSC0777	BALLAST SHIELD CASE BOTTOM, STEEL	
732	LSSC0778	BALLAST SHIELD CASE TOP, STEEL	
733	KGLS-10RT	CLAMPER	
734	KGPS-6RFV0	RIVET	
735	LSSC0630	HEAT SINK	
736	LSSC0629	HEAT SINK	
737	LSSC0627	HEAT SINK	
738	LSSC0631	HEAT SINK	
739	LSSC0628	HEAT SINK	



Ref. No.	Part No.	Part Name & Description	Remarks
740	LSSC0632	HEAT SINK	
741	LSSC0633	HEAT SINK	
742	LSMZ0400	BALLAST BARRIER	

## 15.5.9. OPERATION C.B.A.

### TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q6701	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6701			
Q6702	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6702			

### DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6701	B3AGA0000072	LIGHT EMITTING DIODE GREEN	

### RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6702	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R6703	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6704	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6705	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6706	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6707	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R6708	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6709	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6710	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R6711	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6712	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6713	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P6701	K1KA07BA0061	CONNECTOR 7P	

### SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6701	EVQ11G05R	SWITCH PUSH	
SW6702	EVQ11G05R	SWITCH PUSH	
SW6703	EVQ11G05R	SWITCH PUSH	
SW6704	EVQ11G05R	SWITCH PUSH	
SW6705	EVQ11G05R	SWITCH PUSH	
SW6706	EVQ11G05R	SWITCH PUSH	
SW6707	EVQ11G05R	SWITCH PUSH	
SW6708	EVQ11G05R	SWITCH PUSH	

## 15.5.10. THERMISTOR 1 C.B.A.

### RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2811	D4CA35030002	THERMISTOR	⚠ PSEC

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2811	K1KA02AA0182	CONNECTOR 2P	PSEC

## 15.5.11. THERMISTOR 2 C.B.A.

### RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2821	D4CE31330001	THERMISTOR	⚠ PSEC

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2821	K1KA02AA0300	CONNECTOR 2P	PSEC

### MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
750	VZFS0006	CLAMPER	PSEC
752	LSLQ0307	FERRITE CORE	PSEC
762	LSJA0533	CONNECTOR CABLE W/PLUG	PSEC

## 15.5.12. COVER SWITCH C.B.A.

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2912	LSJA0551	CONNECTOR CABLE W/PLUG	PSEC

### SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW2911	K0L1BA000114	SWITCH	PSEC


# 16 EXPLODED VIEWS (PROJECTION SECTION)

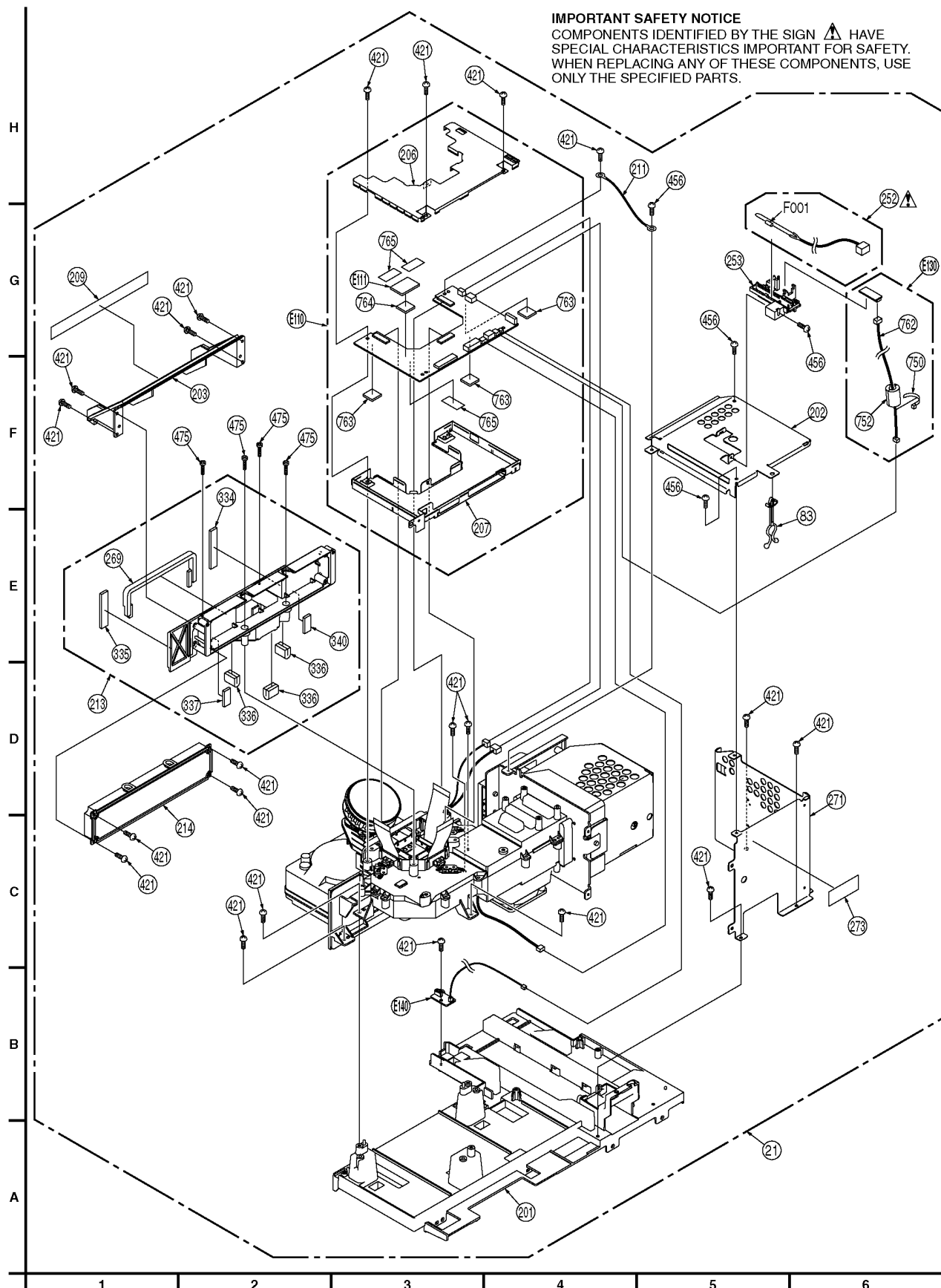
## 16.1. PROJECTION SECTION (1)

### 1 PROJECTION SECTION (1)

**Note:** Parts with no Ref. No. in "EXPLODED VIEW" are not supplied.  
And some Ref. No. will be skipped. Be sure to make your  
orders of replacement parts according to the parts list.

#### IMPORTANT SAFETY NOTICE


COMPONENTS IDENTIFIED BY THE SIGN  HAVE  
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.  
WHEN REPLACING ANY OF THESE COMPONENTS, USE  
ONLY THE SPECIFIED PARTS.

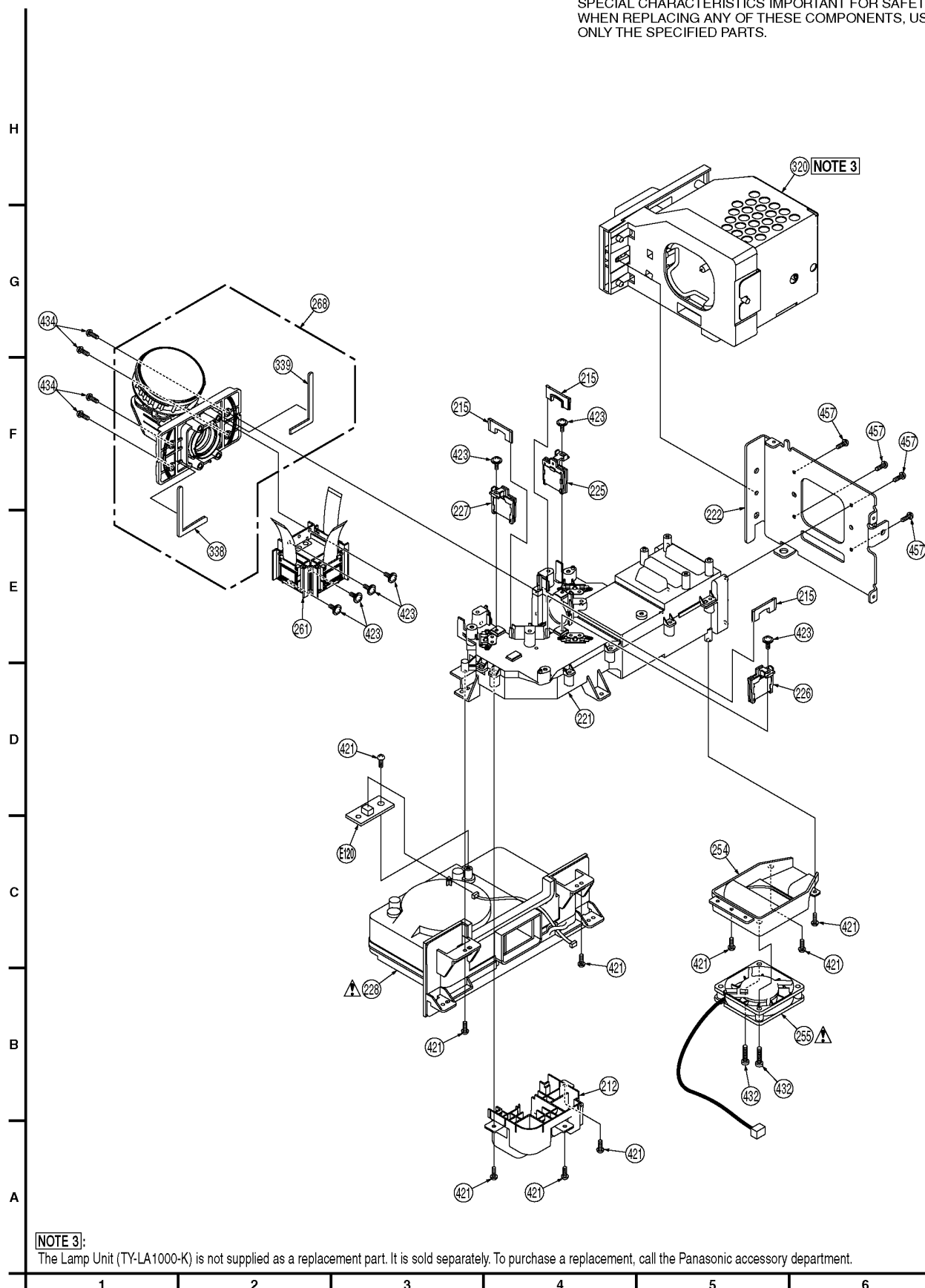


## 16.2. PROJECTION SECTION (2)

### 2 PROJECTION SECTION (2)

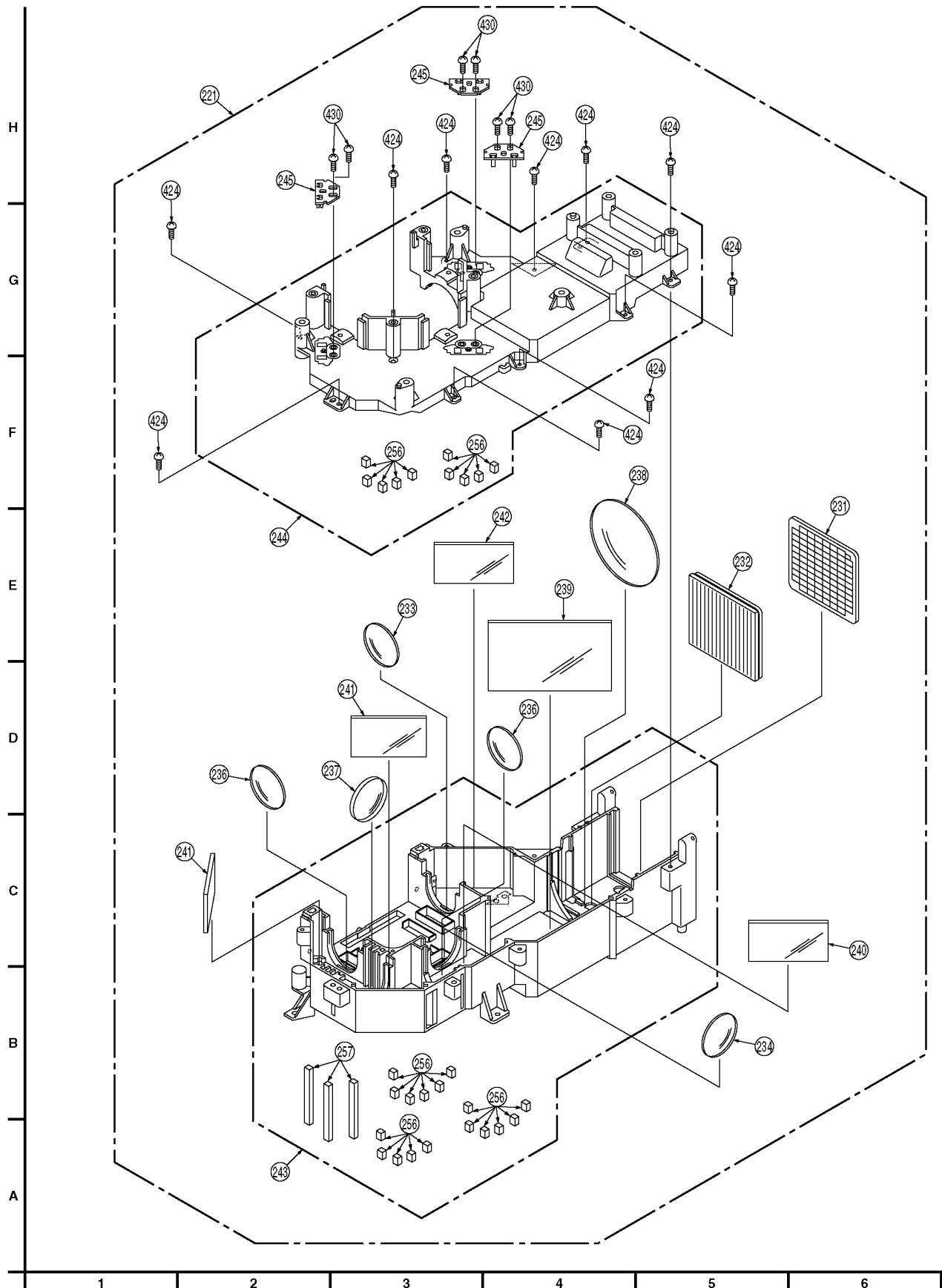
#### IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



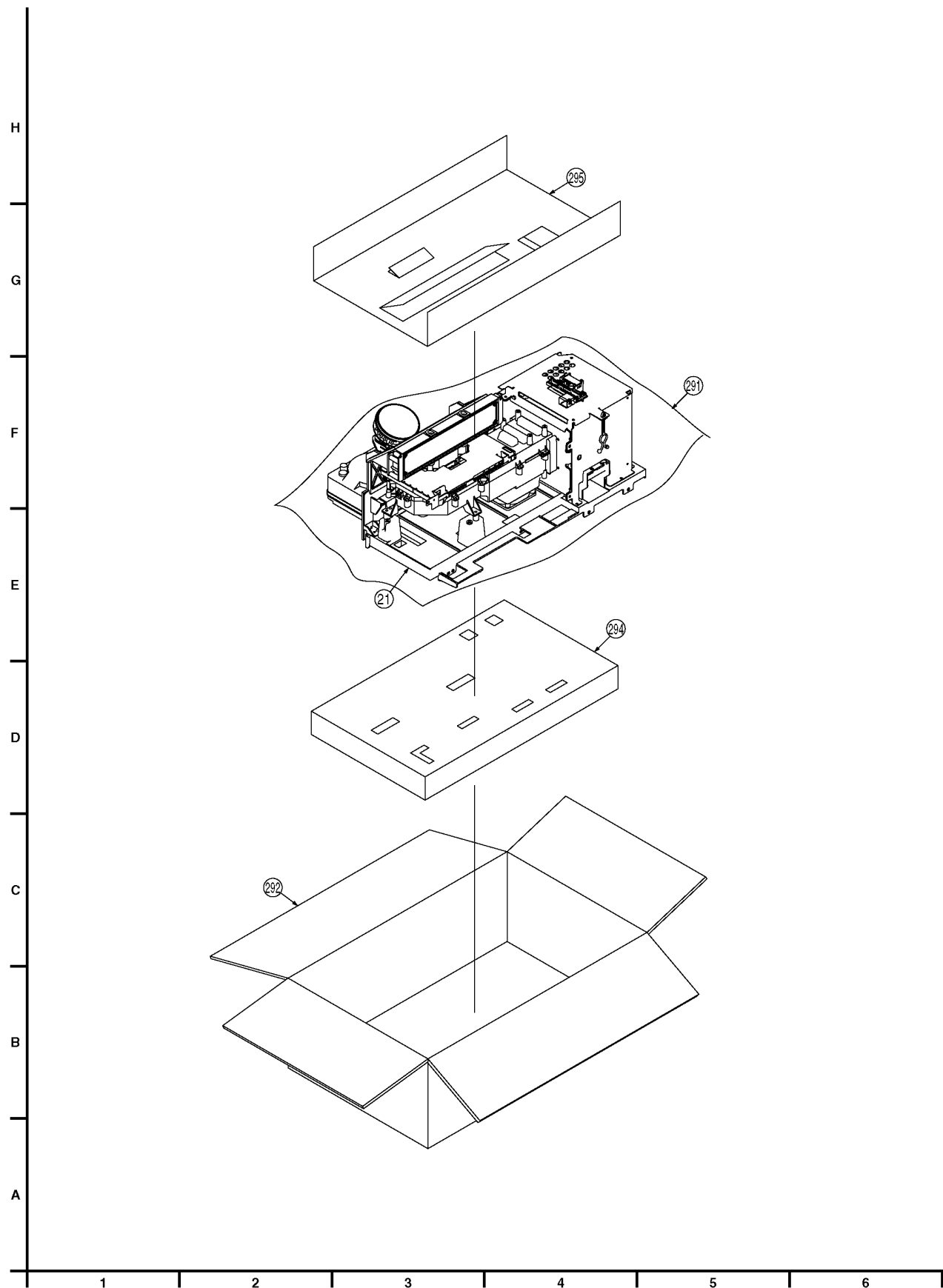
## 16.3. PROJECTION SECTION (3)

### ③ PROJECTION SECTION (3)



## 16.4. PROJECTION SECTION (4)

### ④ PROJECTION SECTION (4)



# 17 REPLACEMENT PARTS LIST (PROJECTION SECTION)

**BEFORE REPLACING PARTS, READ THE FOLLOWING:**


## 17.1. REPLACEMENT NOTES

### 17.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

### 2. IMPORTANT SAFETY NOTICE

Components identified by the sign  have special characteristics important for safety. When replacing any of these components, use only the specified parts.

### 3. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. Definition of Parts supplier:
  - a. All parts are supplied from PSEC.
7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.
8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

### 17.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.
2. Abbreviation
 

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
3. After replacing the LCD/Prism Unit (Ref. No. 261), be sure to perform the following adjustment in order.
  - a. Full Mirror Adjustment
  - b. Polarizer Adjustment
  - c. VCOM Adjustment
  - d. Gamma Adjustment
  - e. White Balance Adjustment
  - f. Non-uniformity color correction

For above adjustments, refer to "ADJUSTMENT PROCEDURES 2."

4. After replacing the Polarizer Red Unit (Ref. No. 225), the

Polarizer Green Unit (Ref. No. 226), or the Polarizer Blue Unit (Ref. No. 227), be sure to perform the "POLARIZER ADJUSTMENT" in ADJUSTMENT PROCEDURES 2 section.

### 17.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

All resistors are in  $\Omega$ , K = 1,000  $\Omega$ , M = 1,000 k $\Omega$ .

2. Abbreviation

RTL:	Retention Time Limited
	This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
NR:	Non Repairable Board Ass'y
MGF CHIP:	Metal Glaze Film Chip
C CHIP:	Ceramic Chip
COMPLX CMP:	Complex Component
W FLMPRF:	Wirewound Flameproof
C.B.A.:	Circuit Board Assembly
P.C.B.:	Printed Circuit Board
E.S.D.:	Electrostatically Sensitive Devices

3. When replacing 0  $\Omega$  resistor, a wire can be substituted for it.

4. Parts with mark "CSP" in the Remarks column are CSP (Chip Size Package) IC.

### COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

## 17.2. MECHANICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. All parts are supplied from PSEC.

### COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65-K	A
PT-52LCX65-K	B
PT-61LCX65-K	C

### MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
21	LSXA0625-HB	PROJECTION UNIT ( A )	1,4 RTL
21	LSXA0626-HB	PROJECTION UNIT ( B )	1,4 RTL
21	LSXA0699-HB	PROJECTION UNIT ( C )	1,4 RTL
83	TMM5439-1	CLAMPER	1
201	LSMP0479	ENGINE FRAME	1
202	LSMA0738	LAMP ROOF	1
203	LSXA0657	TOP DUCT 2 UNIT	1
206	LSSC0769	LCD DRIVE SHIELD CASE 1 TOP,STEEL	1
207	LSSC0770	LCD DRIVE SHIELD CASE 1 BOTTOM,STEEL	1
209	LSMF0299	SEAL TAPE 4	1
211	LSJA0413	GROUNDING WIRE	1
212	LSXA0601	DUCT UNIT	2
213	LSXA0648	TOP DUCT 1 UNIT	1
214	LSMP0478	FILTER CASE UNIT	1
215	LSXA0609	JOINT PIECE UNIT	2
221	LSXA0646	OPTICAL BLOCK UNIT	2,3
222	LSMA0739	LAMP STAY PLATE,STEEL	2
225	LSXA0598	POLARIZER RED UNIT	2
226	LSXA0599	POLARIZER GREEN UNIT	2
227	LSXA0656	POLARIZER BLUE UNIT	2
228	LSMP0482	FAN CASE	2 △
231	LSDL0251	INTEGRATOR	3
232	LSDL0282	P/S CONVERTOR UNIT	3
233	LSDL0253	FIELD LENS RED	3
234	LSDL0254	FIELD LENS GREEN	3
236	LSDL0256	RELAY LENS 1	3
237	LSDL0257	RELAY LENS 2	3
238	LSDL0258	CONDENSER LENS	3
239	LSDL0259	DICHROIC MIRROR RED	3
240	LSDL0260	DICHROIC MIRROR GREEN	3
241	LSDL0264	FULL MIRROR BLUE	3
242	LSDL0262	FULL MIRROR RED	3
243	LSXA0596	OPTICAL BOTTOM UNIT	3
244	LSXA0597	OPTICAL TOP UNIT	3
245	LSMA0551	MIRROR HOLDER	3
252	LSJA0464	THERMAL FUSE UNIT	1 △
253	LSMP0420	SENSOR HOLDER	1
254	LSMP0419	LAMP DUCT	2
255	L6FAKCDH0007	FAN 2	2 △
256	LSMF0055	CUSHION,URETHANE	3
257	LSMF0068	CUSHION,URETHANE	3
261	LSVQ0093	LCD/PRISM UNIT	2
268	LSXA0643	PROJECTION LENS ( A )	2
268	LSXA0644	PROJECTION LENS ( B )	2
268	LSXA0645	PROJECTION LENS ( C )	2
269	LSMF0387	TOP DUCT 1 SPONGE 3	1
271	LSMA0677	LAMP WALL	1
273	LSQL1524	FUSE LABEL	1
291	LSPF0090	BAG,POLYETHYLENE	4
292	LSPG1971	PACKING CASE,PAPER ( A )	4
292	LSPG1972	PACKING CASE,PAPER ( B )	4
292	LSPG2061	PACKING CASE,PAPER ( C )	4

Ref. No.	Part No.	Part Name & Description	Remarks
294	LSPN0590	BOTTOM PAD	4
295	LSPN0591	TOP PAD	4
334	LSMF0385	TOP DUCT 1 SPONGE 1	1
335	LSMF0386	TOP DUCT 1 SPONGE 2	1
336	LSMF0264	TOP DUCT 1 SPONGE 4	1
337	LSMF0388	TOP DUCT 1 SPONGE 5	1
338	LSMF0333	PROJECTION LENS SPONGE 1	2
339	LSMF0334	PROJECTION LENS SPONGE 2	2
340	LSMF0406	TOP DUCT 1 SPONGE 6	1
421	XTV3+8GFJ	TAPPING SCREW,STEEL	1,2
423	XYN26+K8FJK	SCREW W/WASHER,STEEL	2
424	XTN26+10GFJ	TAPPING SCREW,STEEL	3
430	XST26+4FJK	SCREW,STEEL	3
432	XTV3+25GFJ	TAPPING SCREW,STEEL	2
434	XYN3+F10FJ	SCREW W/WASHER,STEEL	2
456	XTV3+6FFJ	TAPPING SCREW,STEEL	1
457	XTS3+10GFJ	TAPPING SCREW,STEEL	2
475	XSN3+20FJ	SCREW,STEEL	1
750	VZFS0006	CLAMPER	1
752	LSLQ0307	FERRITE CORE	1
762	LSJA0533	CONNECTOR CABLE W/PLUG	1
763	LSMG0141	THERCOON SHEET	1
764	VMTS0059	CUSHION,RUBBER	1
765	VMFS0213	SHEET	1
E110	LSXA0625FL	LCD DRIVE C.B.A.	1 RTL
E111	LSEP3185A	LCD DRIVE CHILD C.B.A.	1 RTL
E120	LSEP3166A	THERMISTOR 1 C.B.A.	2 RTL
E130	LSEB3137A	THERMISTOR 2 C.B.A.	1 RTL
E140	LSEP3160A	COVER SWITCH C.B.A.	1 RTL

## 17.3. OPTIONAL ACCESSORY REPLACEMENT PARTS LIST

### 17.3.1. LAMP UNIT

Ref. No.2	Part No.	Part Name & Description	Remarks
320	TY-LA1000-K	LAMP UNIT	1 NOTE

#### NOTE:

The Lamp Unit (TY-LA1000-K) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

## 17.4. ELECTRICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. All parts are supplied from PSEC.

### PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E110	LSXA0625FL	LCD DRIVE C.B.A.	RTL E.S.D.
E111	LSEP3185A	LCD DRIVE CHILD C.B.A. *See Schematic Diagram & Circuit Board Layout Notes	RTL
E120	LSEP3166A	THERMISTOR 1 C.B.A.	RTL
E130	LSEB3137A	THERMISTOR 2 C.B.A.	RTL
E140	LSEP3160A	COVER SWITCH C.B.A.	RTL

### 17.4.1. LCD DRIVE C.B.A.

#### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC2001	CIAB00002153	IC, LOGIC	E.S.D.
IC2002	CIAB00002153	IC, LOGIC	E.S.D.
IC2003	CIAB00002153	IC, LOGIC	E.S.D.
IC2004	CI2BZ0002748	IC, LOGIC	E.S.D.
IC2301	LSEQ0810	IC, 32K EEP ROM	E.S.D.



Ref. No.	Part No.	Part Name & Description	Remarks
IC2302	C0EBE0000275	IC, CMOS STANDARD LOGIC	E.S.D.
IC2303	MN101C77CAA	IC, 8BIT MICROCONTROLLER	E.S.D.
IC2304	C0JBAB000619	IC, LINEAR *See Schematic Diagram & Circuit Board Layout Notes	
IC2501	C0DBFFD00003	IC, LINEAR	
IC2502	C0CBCBD00008	IC, LINEAR	
IC2503	C0JBCZ000519	IC, CMOS STANDARD LOGIC	E.S.D.
IC2505	ClAB00001945	IC, LOGIC	E.S.D. CSP
IC2901	C0DBEKG00004	IC, LINEAR	
IC2902	C0DBEKG00003	IC, LIENAR	
IC2903	C0DBEKG00003	IC, LIENAR	
IC2904	C0DBEKG00003	IC, LIENAR	
IC2905	C0ABBA000137	IC, LINEAR	

## TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q2001	2SB1218AHL	TRANSISTOR SI PNP CHIP	
Q2001	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q2002	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q2002	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q2003	2SB1218AHL	TRANSISTOR SI PNP CHIP	
Q2003	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q2004	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q2004	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q2005	2SB1218AHL	TRANSISTOR SI PNP CHIP	
Q2005	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q2006	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q2006	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q2007	2SB1218AHL	TRANSISTOR SI PNP CHIP	
Q2007	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q2008	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q2008	BlABCF000020	TRANSISTOR SI NPN CHIP	
Q2009	2SB1218AHL	TRANSISTOR SI PNP CHIP	
Q2009	BlADCF000063	TRANSISTOR SI PNP CHIP	
Q2010	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q2010	BlABCF000020	TRANSISTOR SI NPN CHIP	

## DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D2001	MA3J142E0L	DIODE SI CHIP	
D2001	B0ADCJ000012	DIODE SI CHIP	
D2002	MA3J142E0L	DIODE SI CHIP	
D2002	B0ADCJ000012	DIODE SI CHIP	
D2003	MA3J142D0L	DIODE SI CHIP	
D2003	B0ADCJ000025	DIODE SI CHIP	
D2004	MA3J142D0L	DIODE SI CHIP	
D2004	B0ADCJ000025	DIODE SI CHIP	
D2005	MA2J111008	DIODE SI CHIP	
D2005	B0ACCK000005	DIODE SI CHIP	
D2005	MA2J11100L	DIODE SI CHIP	
D2006	MA2J111008	DIODE SI CHIP	
D2006	B0ACCK000005	DIODE SI CHIP	
D2006	MA2J11100L	DIODE SI CHIP	
D2301	MA3J142E0L	DIODE SI CHIP	
D2301	B0ADCJ000012	DIODE SI CHIP	
D2302	MA2J111008	DIODE SI CHIP	
D2302	B0ACCK000005	DIODE SI CHIP	
D2302	MA2J11100L	DIODE SI CHIP	

## RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2001	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2002	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2003	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2004	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2005	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2007	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2008	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2009	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R2010	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2012	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2016	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2017	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2018	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2019	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2020	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2021	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2022	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2023	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2024	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2025	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2026	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2027	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2028	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2029	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2030	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2031	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2032	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2033	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2034	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2035	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2036	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2037	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2038	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2039	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2040	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2041	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
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R2046	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2047	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2048	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2049	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2050	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2051	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2052	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2053	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2054	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2055	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2056	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2057	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2058	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2059	ERJ3GEYJ153V	MGF CHIP 1/16W 15K *See Schematic Diagram & Circuit Board Layout Notes	
R2060	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R2061	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2062	ERA3YED332V	MGF CHIP 1/16W 3.3K	
R2063	ERA3YED152V	MGF CHIP 1/16W 1.5K	
R2064	ERA3YED391V	MGF CHIP 1/16W 390	
R2065	ERA3YED472V	MGF CHIP 1/16W 4.7K	
R2066	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2067	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2071	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2072	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2073	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2074	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2075	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2076	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2077	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2078	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2079	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2080	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2081	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R2082	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2083	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2084	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2085	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2086	ERJ3GEYJ220V	MGF CHIP 1/16W 22	

Ref. No.	Part No.	Part Name & Description	Remarks
R2087	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2088	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2089	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2090	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2091	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2092	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2093	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2094	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2095	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2096	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2097	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2098	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R2099	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R2100	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R2101	ERJ6GEYJ273V	MGF CHIP 1/10W 27K *See Schematic Diagram & Circuit Board Layout Notes	
R2101	ERJ3GEYJ273V	MGF CHIP 1/16W 27K *See Schematic Diagram & Circuit Board Layout Notes	
R2302	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2303	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2304	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2306	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2307	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2308	ERJ3GEYJ000V	MGF CHIP 1/16W 0 *See Schematic Diagram & Circuit Board Layout Notes	
R2311	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R2314	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2317	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2318	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2319	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2320	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2321	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2322	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2323	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2324	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2325	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2326	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2327	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2328	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2329	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2330	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R2331	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2332	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R2333	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2334	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R2335	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2336	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2337	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2338	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2339	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2340	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2341	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2342	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2343	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2344	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2345	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2346	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2347	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2348	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2349	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2350	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2351	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2352	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2353	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2354	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2355	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2356	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2357	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R2358	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2361	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2362	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	

Ref. No.	Part No.	Part Name & Description	Remarks
R2363	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2364	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R2366	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2367	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R2369	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2370	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R2371	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2372	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2373	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2374	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2375	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2377	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2378	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2379	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2380	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2382	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2383	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2384	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R2385	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R2386	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2387	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2388	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2389	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2390	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2391	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2394	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2395	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2396	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2403	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2406	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2407	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2409	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2410	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R2411	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2412	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2416	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2417	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2418	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2419	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2422	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2499	ERJ3GEYJ000V	MGF CHIP 1/16W 0 *See Schematic Diagram & Circuit Board Layout Notes	
R2502	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2503	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2504	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2505	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2508	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2509	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2510	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2511	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2512	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2513	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2514	DIH84704A008	ARRAY CHIP 47	
R2515	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2516	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2518	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2519	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2520	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2521	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2522	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2523	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2524	DIH84704A008	ARRAY CHIP 47	
R2525	DIH84704A008	ARRAY CHIP 47	
R2526	DIH84704A008	ARRAY CHIP 47	
R2527	DIH84704A008	ARRAY CHIP 47	
R2528	DIH84704A008	ARRAY CHIP 47	
R2529	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2531	ERJ3GEYJ000V	MGF CHIP 1/16W 0	
R2532	ERJ3GEYJ203V	MGF CHIP 1/16W 20K	
R2533	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R2534	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2535	ERJ3GEYJ470V	MGF CHIP 1/16W 47	

Ref. No.	Part No.	Part Name & Description	Remarks
R2536	DIH84704A008	ARRAY CHIP 47	
R2537	DIH84704A008	ARRAY CHIP 47	
R2538	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2539	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2540	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2541	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2543	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2544	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2545	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2547	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2548	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2549	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2550	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2551	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2552	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2553	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2554	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2555	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2556	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2558	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2559	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2560	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2561	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2562	DIH84704A008	ARRAY CHIP 47	
R2563	DIH84704A008	ARRAY CHIP 47	
R2564	DIH84704A008	ARRAY CHIP 47	
R2565	DIH84704A008	ARRAY CHIP 47	
R2566	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2567	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2568	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2569	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2590	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *See Schematic Diagram & Circuit Board Layout Notes	
R2591	ERJ3GEY0R00V	MGF CHIP 1/16W 0 *See Schematic Diagram & Circuit Board Layout Notes	
R2901	ERJ14YJR47H	MGF CHIP 1/4W 0.47	
R2913	ERA3YED153V	MGF CHIP 1/16W 15K	
R2914	ERA3YED122V	MGF CHIP 1/16W 1.2K	
R2915	ERJ3GEYJ752V	MGF CHIP 1/16W 7.5K	
R2916	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R2917	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R2918	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R2919	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R2920	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R2921	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R2923	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R2924	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2925	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R2926	ERA3YED223V	MGF CHIP 1/16W 22K	
R2927	ERA3YKD473V	MGF CHIP 1/16W 47K	
R2928	ERA3YED223V	MGF CHIP 1/16W 22K	
R2929	ERJ3EKF2201V	MGF CHIP 1/16W 2.2K	
R2931	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R2939	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R2942	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2945	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R2947	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R2948	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R2949	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2950	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R2951	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2952	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R2953	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

## CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C2001	F1H1C104A008	C CHIP 16V 0.1UF	
C2002	F1H1C104A008	C CHIP 16V 0.1UF	
C2003	F1H1C104A008	C CHIP 16V 0.1UF	
C2004	EEEB0J470R	ELECTROLYTIC CHIP 6.3V 47UF	
C2005	EEEB0J470R	ELECTROLYTIC CHIP 6.3V 47UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C2006	EEEB0J470R	ELECTROLYTIC CHIP 6.3V 47UF	
C2007	F1H1C104A008	C CHIP 16V 0.1UF	
C2008	F1H1C104A008	C CHIP 16V 0.1UF	
C2009	F1H1C104A008	C CHIP 16V 0.1UF	
C2010	F1H1E104A030	C CHIP 25V 0.1UF	
C2011	F1H1E104A030	C CHIP 25V 0.1UF	
C2012	F1H1C104A008	C CHIP 16V 0.1UF	
C2013	F1H1E104A030	C CHIP 25V 0.1UF	
C2014	F1H1E104A030	C CHIP 25V 0.1UF	
C2015	ERJ3GEYJ153V	MGF CHIP 1/16W 15K *See Schematic Diagram & Circuit Board Layout Notes	
C2015	ECJ1VFC104Z	C CHIP 16V 0.1UF *See Schematic Diagram & Circuit Board Layout Notes	
C2016	F1H1E104A030	C CHIP 25V 0.1UF	
C2017	F1H1E104A030	C CHIP 25V 0.1UF	
C2018	F1H1C104A008	C CHIP 16V 0.1UF	
C2019	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2020	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2021	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2022	F1H1E104A030	C CHIP 25V 0.1UF	
C2023	F1H1E104A030	C CHIP 25V 0.1UF	
C2024	F1H1C104A008	C CHIP 16V 0.1UF	
C2025	F1H1E104A030	C CHIP 25V 0.1UF	
C2026	F1H1E104A030	C CHIP 25V 0.1UF	
C2027	F1H1C104A008	C CHIP 16V 0.1UF	
C2028	F1H1E104A030	C CHIP 25V 0.1UF	
C2029	F1H1E104A030	C CHIP 25V 0.1UF	
C2030	F1H1C104A008	C CHIP 16V 0.1UF	
C2031	F1H1E104A030	C CHIP 25V 0.1UF	
C2032	F1H1E104A030	C CHIP 25V 0.1UF	
C2033	F1H1C104A008	C CHIP 16V 0.1UF	
C2034	F1H1E104A030	C CHIP 25V 0.1UF	
C2035	F1H1E104A030	C CHIP 25V 0.1UF	
C2036	F1H1C104A008	C CHIP 16V 0.1UF	
C2037	F1H1E104A030	C CHIP 25V 0.1UF	
C2038	F1H1E104A030	C CHIP 25V 0.1UF	
C2039	F1H1E104A030	C CHIP 25V 0.1UF	
C2040	F1H1E104A030	C CHIP 25V 0.1UF	
C2041	F1H1E104A030	C CHIP 25V 0.1UF	
C2042	F1H1E104A030	C CHIP 25V 0.1UF	
C2043	F1H1E104A030	C CHIP 25V 0.1UF	
C2044	F1H1E104A030	C CHIP 25V 0.1UF	
C2045	F1H1C104A008	C CHIP 16V 0.1UF	
C2046	F1H1C104A008	C CHIP 16V 0.1UF	
C2047	F1H1C104A008	C CHIP 16V 0.1UF	
C2048	F1H1C104A008	C CHIP 16V 0.1UF	
C2049	ECJ1VCH221J	C CHIP 50V 220PF	
C2050	ECJ1VCH221J	C CHIP 50V 220PF	
C2051	ECJ1VCH221J	C CHIP 50V 220PF	
C2052	ECJ1VCH221J	C CHIP 50V 220PF	
C2053	F1K1C2250005	C CHIP 16V 2.2UF	
C2054	F1H1C104A008	C CHIP 16V 0.1UF	
C2055	F1H1E104A030	C CHIP 25V 0.1UF	
C2056	F1H1E104A030	C CHIP 25V 0.1UF	
C2057	F1H1E104A030	C CHIP 25V 0.1UF	
C2058	ECJ1VCH221J	C CHIP 50V 220PF	
C2059	ECJ1VCH221J	C CHIP 50V 220PF	
C2060	F1H1E104A030	C CHIP 25V 0.1UF	
C2061	F1H1E104A030	C CHIP 25V 0.1UF	
C2062	ECJ1VCH221J	C CHIP 50V 220PF	
C2063	ECJ1VCH221J	C CHIP 50V 220PF	
C2064	ECJ1VCH221J	C CHIP 50V 220PF	
C2065	ECJ1VCH221J	C CHIP 50V 220PF	
C2066	F1H1E104A030	C CHIP 25V 0.1UF	
C2067	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2068	F1H1E104A030	C CHIP 25V 0.1UF	
C2070	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2074	EEEB1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2075	F1H1E104A030	C CHIP 25V 0.1UF	
C2076	F1H1E104A030	C CHIP 25V 0.1UF	
C2077	F1H1E104A030	C CHIP 25V 0.1UF	
C2078	F1H1E104A030	C CHIP 25V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C2080	EEHBE1E330P	ELECTROLYTIC CHIP 25V 33UF	
C2081	F1H1E104A030	C CHIP 25V 0.1UF	
C2082	F1H1E104A030	C CHIP 25V 0.1UF	
C2083	F1H1E104A030	C CHIP 25V 0.1UF	
C2084	F1H1E104A030	C CHIP 25V 0.1UF	
C2085	F1H1E104A030	C CHIP 25V 0.1UF	
C2086	F1H1E104A030	C CHIP 25V 0.1UF	
C2087	F1H1E104A030	C CHIP 25V 0.1UF	
C2302	EEE0JA220SR	ELECTROLYTIC 6.3V 22UF	
C2304	F1H1C104A041	C CHIP 16V 0.1UF	
C2305	F1H1C104A008	C CHIP 16V 0.1UF	
C2306	F1H1C104A008	C CHIP 16V 0.1UF	
C2307	F1H1C104A008	C CHIP 16V 0.1UF	
C2308	F1H1H103A748	C CHIP 50V 0.01UF	
C2309	F1H1C104A008	C CHIP 16V 0.1UF	
C2310	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C2321	F1H1C104A008	C CHIP 16V 0.1UF	
C2322	F1H1C104A008	C CHIP 16V 0.1UF	
C2323	EEE0JA220SR	ELECTROLYTIC 6.3V 22UF	
C2327	ECJ1VF1C104Z	C CHIP 16V 0.1UF *See Schematic Diagram & Circuit Board Layout Notes	
C2502	F1H1C104A041	C CHIP 16V 0.1UF	
C2505	FLJ0J2250003	C CHIP 6.3V 2.2UF	
C2506	F1H1A105A019	C CHIP 10V 1UF	
C2507	F1H1C104A008	C CHIP 16V 0.1UF	
C2508	F1H1H103A748	C CHIP 50V 0.01UF	
C2509	FLJ1A1050004	C CHIP 10V 1UF	
C2511	F1H1H471A189	C CHIP 50V 470PF	
C2513	F1H1C104A008	C CHIP 16V 0.1UF	
C2514	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2515	F1H1C104A008	C CHIP 16V 0.1UF	
C2516	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2519	F1H1C104A008	C CHIP 16V 0.1UF	
C2520	F1H1C104A008	C CHIP 16V 0.1UF	
C2521	F1H1C104A008	C CHIP 16V 0.1UF	
C2522	F1H1C104A008	C CHIP 16V 0.1UF	
C2523	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2526	F1H1C104A008	C CHIP 16V 0.1UF	
C2527	F1H1C104A008	C CHIP 16V 0.1UF	
C2528	F1H1C104A008	C CHIP 16V 0.1UF	
C2529	F1H1C104A008	C CHIP 16V 0.1UF	
C2530	FLJ0J2250003	C CHIP 6.3V 2.2UF	
C2531	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2535	F1H1C104A008	C CHIP 16V 0.1UF	
C2536	FLJ0J2250003	C CHIP 6.3V 2.2UF	
C2537	F1H1C104A008	C CHIP 16V 0.1UF	
C2538	F1H1C104A008	C CHIP 16V 0.1UF	
C2539	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2540	F1H1H103A220	C CHIP 50V 0.01UF	
C2541	F1H1C104A008	C CHIP 16V 0.1UF	
C2542	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2543	F1H1C104A008	C CHIP 16V 0.1UF	
C2544	F1H1C104A008	C CHIP 16V 0.1UF	
C2545	F1H1C104A008	C CHIP 16V 0.1UF	
C2546	F1H1C104A008	C CHIP 16V 0.1UF	
C2547	FLJ0J2250003	C CHIP 6.3V 2.2UF	
C2554	F1H1C104A008	C CHIP 16V 0.1UF	
C2555	FLJ0J2250003	C CHIP 6.3V 2.2UF	
C2556	F1H1C104A008	C CHIP 16V 0.1UF	
C2557	F1H1C104A008	C CHIP 16V 0.1UF	
C2558	F3F0J106A032	TANTALUM CHIP 6.3V 10UF	
C2901	F1H1C104A008	C CHIP 16V 0.1UF	
C2902	F1H1C104A008	C CHIP 16V 0.1UF	
C2903	F1H1C104A008	C CHIP 16V 0.1UF	
C2904	F1H1C104A008	C CHIP 16V 0.1UF	
C2905	F1H1C104A008	C CHIP 16V 0.1UF	
C2906	F1H1C104A008	C CHIP 16V 0.1UF	
C2907	F1H1C104A008	C CHIP 16V 0.1UF	
C2908	F1H1C104A008	C CHIP 16V 0.1UF	
C2909	F1H1C104A008	C CHIP 16V 0.1UF	
C2910	F1H1E104A030	C CHIP 25V 0.1UF	
C2911	F1H1E104A030	C CHIP 25V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C2912	F1H1E104A030	C CHIP 25V 0.1UF	
C2913	F1H1E104A030	C CHIP 25V 0.1UF	
C2914	F1H1C104A008	C CHIP 16V 0.1UF	
C2915	F1H1C104A008	C CHIP 16V 0.1UF	
C2916	EEHBOJ101P	ELECTROLYTIC CHIP 6.3V 100UF	
C2917	EEHBOJ101P	ELECTROLYTIC CHIP 6.3V 100UF	
C2918	EEHBE1E100R	ELECTROLYTIC CHIP 25V 10UF	
C2919	EEHBE1C100R	ELECTROLYTIC CHIP 16V 10UF	
C2921	F1H1E104A030	C CHIP 25V 0.1UF	
C2922	F1H1E104A030	C CHIP 25V 0.1UF	
C2923	F1H1E104A030	C CHIP 25V 0.1UF	
C2924	F1H1E104A030	C CHIP 25V 0.1UF	
C2925	EEHBE1E100R	ELECTROLYTIC CHIP 25V 10UF	
C2926	FK1A4750013	C CHIP 10V 10UF	
C2927	FK1A4750013	C CHIP 10V 10UF	
C2928	FK1A4750013	C CHIP 10V 10UF	
C2929	F1H1H103A220	C CHIP 50V 0.01UF	
C2930	F1H1C104A041	C CHIP 16V 0.1UF	
C2931	EEHBE1C100R	ELECTROLYTIC CHIP 16V 10UF	

## COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L2001	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2002	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2003	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2004	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2005	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2006	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2007	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2013	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2014	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2015	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2016	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2301	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2302	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2510	J0JHC0000018	COIL CHIP 42UH	
L2511	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2512	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2513	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2514	J0JCC0000077	BEAD INDUCTOR CHIP 600UH	
L2908	J0JHC0000018	COIL CHIP 42UH	
L2909	J0JHC0000018	COIL CHIP 42UH	
L2910	J0JHC0000018	COIL CHIP 42UH	
L2911	J0JHC0000018	COIL CHIP 42UH	

## CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X2301	H2D800400017	CRYSTAL OSCILLATOR	

## PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2001	K1MN36BA0079	CONNECTOR 36P	
P2002	K1MN36BA0079	CONNECTOR 36P	
P2003	K1MN36BA0079	CONNECTOR 36P	
P2301	K1KA08AA0083	CONNECTOR 8P	
P2302	K1KA02AA0142	CONNECTOR 2P	
P2303	K1KA02BA0047	CONNECTOR 3P	
P2501	K1KA20B00153	CONNECTOR 20P	
P2502	K1KA02BA0014	CONNECTOR 2P	
P2901	K1KA08B00256	CONNECTOR 8P	
P2902	K1KA03BA0050	CONNECTOR 2P	
P2903	K1KA03BA0047	CONNECTOR 3P	
P2904	K1KA03BA0050	CONNECTOR 2P	

## MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
206	LSSC0769	LCD DRIVE SHIELD CASE TOP,STEEL	
207	LSSC0770	LCD DRIVE SHIELD CASE BOTTOM,STEEL	
763	LSMG0141	THERCOON SHEET	
764	VMTS0059	CUSHION,RUBBER	

Ref. No.	Part No.	Part Name & Description	Remarks
765	VMFS0213	SHEET	

## 17.4.2. LCD DRIVE CHILD C.B.A.

### INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC1	COJBAB000619	IC, LINEAR *See Schematic Diagram & Circuit Board Layout Notes	

### CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1	ECJ1VF1C104Z	C CHIP 16V 0.1UF *See Schematic Diagram & Circuit Board Layout Notes	

## 17.4.3. THERMISTOR 1 C.B.A.

### RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2811	D4CA35030002	THERMISTOR	⚠

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2811	K1KA02AA0182	CONNECTOR 2P	

## 17.4.4. THERMISTOR 2 C.B.A.

### RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2821	D4CE31330001	THERMISTOR	⚠

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2821	K1KA02AA0300	CONNECTOR 2P	

### MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
750	VZFS0006	CLAMPER	
752	LSLQ0307	FERRITE CORE	
762	LSJA0533	CONNECTOR CABLE W/PLUG	

## 17.4.5. COVER SWITCH C.B.A.

### PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2912	LSJA0551	CONNECTOR CABLE W/PLUG	

### SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW2911	K0L1BA000114	SWITCH	